Habitats Regulations Assessment of the Herefordshire Local Plan

Scoping Report

Herefordshire Council

Final report

Prepared by LUC

March 2023

Version	Status	Prepared	Checked	Approved	Date
1	Final HRA Scoping Report	K Nicholls P Freitas	R Turner	K Nicholls	14.03.2023

EMS566057 FS566056 OHS627041

Land Use Consultants Limited
Registered in England. Registered number 2549296. Registered office: 250 Waterloo Road, London SE1 8RD. 100% recycled paper

Contents

Chapter 1
Introduction

1.1 LUC has been commissioned by Herefordshire Council to carry out a Habitats Regulations Assessment (HRA) of the new Herefordshire Local Plan. At this early stage of Local Plan preparation, this HRA Scoping Report contains high level commentary on issues that should be considered within the HRA of the Local Plan. As the Local Plan develops, further iterations of the HRA report will be produced which will include Screening and Appropriate Assessment where required.

1.2 The purposes of this report are as follows:

- to identify which European sites have the potential to be affected by the Local Plan, including establishing the key information such as threats and vulnerabilities, current pressures and any species and habitat interdependencies; and
- to set out the scope of the HRA screening and subsequent Appropriate Assessment if required.

Context for the Local Plan

1.3 The new Local Plan is being prepared to replace the current Herefordshire Core Strategy which was adopted in October 2015. The new Local Plan will take account of the updated evidence base and will be prepared in two parts, with Part 1 including strategic policies and site allocations and Part 2 setting out Development Management-style policies. This HRA Scoping Report relates to Part 1 of the Local Plan which is currently being prepared by the Council (referred to throughout as 'the Local Plan' for simplicity). Part 2 of the Local Plan will also be subject to HRA in line with legal requirements throughout its preparation, when that begins.

The requirement to undertake HRA of development plans

1.4 The requirement to undertake HRA of development plans was confirmed by the amendments to the Habitats Regulations published for England and Wales in 2007 **[See reference** 1**]**. The currently applicable version is the Conservation of Habitats and Species Regulations 2017 **[See reference** 2**]** (as amended). When preparing the Local Plan, Herefordshire Council is therefore required by law to carry out an HRA. The Council 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 Herefordshire Council as the 'competent authority'. The Council will consider this work and would usually only progress the Local Plan if it considers that the Plan will not adversely affect the integrity **[See reference** 3**]** of any 'European site', as defined below (the exception to this would be where 'imperative reasons of overriding public interest' can be demonstrated; see **Paragraph 2.4**. 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) **[See reference** 4**]**.

1.5 HRA refers to the assessment of the potential effects of a development plan on one or more sites afforded the highest level of protection in the UK: SPAs and SACs. These were classified under European Union (EU) legislation but, since 1 January 2021, are protected in the UK by the Habitats Regulations 2017 (as amended). Although the EU Directives from which the UK's Habitats Regulations originally derived are no longer binding, the Regulations still make reference to the lists of habitats and species that the sites were designated for, which are listed in annexes to the EU Directives:

- SACs are designated for particular habitat types (specified in Annex 1 of the EU Habitats Directive **[See reference** 5**]**) 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. Designation of SACs also has regard to the threats of degradation or destruction to which the sites are exposed and, before EU exit day, to the coherence of the 'Natura

2000' network of European sites. After EU exit day, regard is had to the importance of such sites for the coherence of the UK's 'national site network'.

- SPAs are classified for rare and vulnerable birds (Annex I of the EU Birds Directive **[See reference 6]**), and for regularly occurring migratory species not listed in Annex I.

1.6 The term 'European sites' was previously commonly used in HRA to refer to 'Natura 2000' sites **[See reference 7]** and Ramsar sites (international designated under the Ramsar Convention). However, a Government Policy Paper **[See reference 8]** on changes to the Habitats Regulations 2017 post-Brexit states that:

- Any references to Natura 2000 in the 2017 Regulations and in guidance now refer to the new 'national site network'.
- The national site network includes existing SACs and SPAs; and new SACs and SPAs designated under these Regulations.
- Designated Wetlands of International Importance (known as Ramsar sites) do not form part of the national site network. Many Ramsar sites overlap with SACs and SPAs and may be designated for the same or different species and habitats.

1.7 Although Ramsar sites do not form part of the new national site network, the Government guidance states that:

"Any proposals affecting the following sites would also require an HRA because these are protected by government policy:

- proposed SACs
- potential SPAs
- Ramsar sites - wetlands of international importance (both listed and proposed)

- areas secured as sites compensating for damage to a European site."

1.8 Furthermore, the NPPF **[See reference 9]** and practice guidance **[See reference 10]** currently state that competent authorities responsible for carrying out HRA should treat Ramsar sites in the same way as SACs and SPAs. The legislative requirement for HRA does not apply to other nationally designated wildlife sites such as Sites of Special Scientific Interest or National Nature Reserves.

1.9 For simplicity, this report uses the term 'European site' to refer to all types of designated site for which Government guidance **[See reference 11]** requires an HRA.

1.10 The overall purpose of an HRA is to conclude whether or not a proposal or policy, or whole development plan would adversely affect the integrity of the European 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.

Structure of this report

1.11 This chapter has introduced the requirement to undertake HRA of the new Herefordshire Local Plan. The remainder of the report is structured as follows:

- **Chapter 2** describes the approach to the HRA. It also describes recent case law, summarises the key issues that will need to be considered during the HRA process and describes the identification of European sites in and around Herefordshire that could be affected by the new Local Plan.
- **Chapter 3** describes the European sites in and around Herefordshire and their key vulnerabilities.

- **Chapter 4** sets out the assumptions of the assessment and explores each impact pathway in turn.
- **Chapter 5** describes the next steps that will be carried out in the HRA of the Local Plan.

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

- **Appendix A** presents a map showing the European sites in and around Herefordshire.
- **Appendix B** sets out detailed information about the European sites that are the focus of the HRA.
- **Appendix C** presents a map of strategic roads within and around Herefordshire.

Chapter 2
Approach to HRA

2.1 The HRA should be undertaken by the 'competent authority', in this case Herefordshire Council. LUC has been commissioned by the Council to carry out HRA work on its behalf, although this is to be reported to and considered by Herefordshire Council as the competent authority during the development of the Plan, before finally adopting the Local Plan. The HRA also typically requires close working with Natural England and Natural Resources Wales (NRW) as the statutory nature conservation bodies **[See reference** 12**]** to obtain the necessary information, agree the process, outcomes, and mitigation proposals. Where a plan or project requires Appropriate Assessment, consultation with Natural England and NRW is a statutory requirement.

2.2 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.

Stages of HRA

2.3 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.

Requirements of the Habitats Regulations

2.4 In assessing the effects of a Plan in accordance with Regulation 105 of the Conservation of Habitats and Species Regulations 2017 (as amended) (the 'Habitats Regulations'), there are potentially two tests to be applied by the

competent authority: a 'Significance Test', followed if necessary by an Appropriate Assessment 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 Table 2.1.].
- 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 NRW, 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 Table 2.1].
- 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.

  [This step follows Stage 2 where a finding of 'no adverse effect' is concluded. If it cannot be it proceeds to Step 5 as part of Stage 3 of the HRA process].
- 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).

  [This step is undertaken during Stage 3: Assessment where no alternatives exist and adverse impacts remain taking into account mitigation shown in Table 2.1].

Typical Stages of HRA

Table 2.1 summarises the stages and associated tasks and outcomes typically involved in carrying out a full HRA, based on various guidance documents **[See reference** 13**]** **[See reference** 14**]** **[See reference** 15**]**

Stage 1: HRA Screening

Task

- Description of the development plan 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 **[See reference** 16**]**
- 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 **[See reference** 17**]**.

Outcome

- 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 (where Stage 1 does not rule out likely significant effects)

Task

- Information gathering (development plan and European sites [See reference **[See reference** 18**]**]).
- Impact prediction.
- Evaluation of development plan impacts on 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’).

Outcome

- 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 and adverse impacts remain taking into account mitigation

Task

- Identify ‘imperative reasons of overriding public interest’ (IROPI).

- Demonstrate no alternatives exist.
- Identify potential compensatory measures.

Outcome

- This stage should be avoided if at all possible. The test of IROPI and the requirements for compensation are extremely onerous.

2.5 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 or reduce 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 the Government.

Case law

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

2.7 The 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."

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

2.9 The HRA will also fully consider the 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."

2.10 In undertaking this HRA, 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 habitat, 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, will also be fully considered in this HRA.

2.11 In addition to this, the HRA will take into consideration the 'Wealden' judgement from the Court of Justice for the European Union.

2.12 Wealden District Council v Secretary of State for Communities and Local Government, Lewes District Council and South Downs National Park Authority (2017) ruled that it was not appropriate to scope out the need for a detailed assessment for an individual plan or project based on the annual average daily traffic (AADT) figures detailed in the Design Manual for Roads and Bridges or the critical loads used by DEFRA or Environment Agency without considering the in-combination impacts with other plans and projects.

2.13 In light of this judgement, the HRA will therefore consider traffic growth based on the effects of development provided for by the Local Plan in combination with other drivers of growth such as development proposed in neighbouring districts and demographic change.

2.14 The HRA will also take into account the Grace and Sweetman (July 2018) judgement from the CJEU which stated that:

"there is a distinction to be drawn between protective measures forming part of a project and intended avoid or reduce any direct adverse effects that may be caused by the project in order to ensure that the project does not adversely affect the integrity of the area, which are covered by Article 6(3), and measures which, in accordance with Article 6(4), are aimed at compensating for the negative effects of the project on a protected area and cannot be taken into account in the assessment of the implications of the project".

"As a general rule, any positive effects of the future creation of a new habitat, which is aimed at compensating for the loss of area and quality of that habitat type in a protected area, are highly difficult to forecast with any degree of certainty or will be visible only in the future"

"A mitigation strategy may only be taken into account at AA (a.6(3)) where the competent authority is "sufficiently certain that a measure will make an effective contribution to avoiding harm, guaranteeing beyond all reasonable doubt that the project will not adversely affect the integrity of the area"

"Otherwise it falls to be considered to be a compensatory measure to be considered under a.6(4) only where there are "imperative reasons of overriding public interest"

2.15 The Appropriate Assessment of the Local Plan will therefore only consider the existence of measures to avoid or reduce its direct adverse effects (mitigation) if the expected benefits of those measures are beyond reasonable doubt at the time of the assessment.

Screening methodology

2.16 HRA Screening of the Local Plan will be undertaken in line with current available guidance and seek to meet the requirements of the Habitats Regulations.

2.17 The purposes of the screening stage are to:

- Identify all aspects of the plan which would have no effect on a European site, so that that they can be eliminated from further consideration in respect of this and other plans.
- Identify all aspects of the plan which would not be likely to have a significant effect on a European site (i.e. would have some effect, because of links/connectivity, but which are not significant), either alone or in combination with other aspects of the same plan or other plans or projects, which therefore do not require 'appropriate assessment'.
- Identify those aspects of the plan where it is not possible to rule out the risk of significant effects on a European site, either alone or in combination with other plans or projects. This provides a clear scope for the parts of the plan that will require Appropriate Assessment.

Identification of European sites which may be affected by the Local Plan

2.18 To initiate the search of European sites that could potentially be affected by the Local Plan, 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.

2.19 A distance of 15km from the Herefordshire boundary has been used as a starting point to identify European sites that could be affected by impacts relating to the Local Plan. The use of this distance is common practice in HRAs of English Local Plans and is consistent with the approach taken in the HRA of

the Herefordshire Minerals and Waste Local Plan which is currently at a late stage in the Examination process. In addition to this, consideration has also been given to European sites potentially connected to the plan area beyond this distance, for example through hydrological pathways or recreational visits by residents of Herefordshire.

Potential impacts of the Local Plan on European sites

2.20 In LUC's experience of HRA of Local Plans, and based on previous statutory consultee comments on HRAs undertaken elsewhere, the type of development (and related activities) that are permitted by Local Plans have the potential to result in the following broad types of impacts that could affect European sites:

- **Physical loss of or damage to habitats** e.g. from development or activities within the European sites themselves or at functionally-linked sites.
- **Non-physical disturbance** e.g. noise, vibration or light from construction or development in close proximity to sensitive species.
- **Non-toxic contamination** e.g. from creation of dust which can smother terrestrial habitats, affect turbidity of aquatic habitats and contribute to nutrient enrichment.
- **Recreation pressure** e.g. dog walking, cycling, trampling, littering, fire, or predation by pets.
- **Air pollution** e.g. from changes in traffic volumes on roads close to sensitive habitats.
- **Changes in water quality or quanti**ty e.g. changes in flow caused by abstraction/discharge, accidental pollution, or increase nutrient loading from sewage treatment.

2.21 Further consideration of the types of impact that could be relevant to the Local Plan and possible impact pathways to European sites is provided in **Chapter 4**.

Assessment of 'likely significant effect'

2.22 As required under Regulation 105 of The Conservation of Habitats and Species Regulations 2017 (SI 2017/1012), as amended by The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (SI 2019/579), an assessment will be undertaken of the 'likely significant effects' of the policy approaches set out within the emerging Local Plan. The assessment will be undertaken to identify which policies or site allocations would be likely to have a significant effect on European sites in Herefordshire (+15km). This assessment will need to be repeated with each HRA iteration of the Local Plan.

2.23 A risk-based approach involving the application of the precautionary principle will be 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 Local Plan would have a significant effect on the integrity of a European site.

Interpretation of 'likely significant effect'

2.24 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 Local Plan.

2.25 In the Waddenzee case **[See reference** 19**]**, the European Court of Justice ruled on the interpretation of Article 6(3) of the Habitats 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).

2.26 An opinion delivered to the Court of Justice of the European Union **[See reference** 20**]** 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."

2.27 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

2.28 Regulation 105 of the 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 will be necessary to consider whether any impacts identified from the Local Plan may combine with other plans or projects to give rise to significant effects in-combination.

2.29 Where the Local Plan is likely to have an effect on its own e.g. due to water pollution (due to impact pathways being present), but it is not likely to be significant, the in-combination assessment at Screening stage will need to determine whether there may also be the same types of effect from other plans or projects that could combine with the Local Plan to produce a significant effect. If so, this likely significant effect (e.g., water pollution) arising from the Local Plan in combination with other plans or projects, would then need to be considered through the Appropriate Assessment stage (for example to determine if water pollution would have an adverse effect on integrity of the relevant European site). Where the Screening assessment has concluded that there is no impact pathway between development proposed in the Local Plan and the conditions necessary to maintain qualifying features of a European site, then there will be no in-combination effects to assess at the Screening or Appropriate Assessment stage. This approach accords with recent guidance on HRA **[See reference** 21**]**.

2.30 If impact pathways are found to exist for a particular effect but it is not likely to be significant from the Local Plan alone, the in-combination assessment will identify which other plans and programmes could result in the same impact on the same European site. This will focus on planned growth (including housing, employment, transport, minerals and waste) around the affected site, or along the impact corridor, for example, if impacts could arise as a result of changes to a waterway, then planned growth in local authorities along that waterway will be considered.

2.31 The potential for in-combination impacts will therefore focus on plans prepared by local authorities that overlap with European sites that are within the scope of this HRA. The findings of any associated HRA work for those plans will be reviewed where available. Where relevant, any strategic projects in the area that could have in-combination effects with the Local Plan will also be identified and reviewed.

2.32 The online HRA Handbook suggests the following plans and projects may be relevant to consider as part of the in-combination assessment:

- Applications lodged but not yet determined, including refusals subject to an outstanding appeal or legal challenge.
- Projects subject to periodic review e.g. annual licences, during the time that their renewal is under consideration.
- Projects authorised but not yet started.
- Projects started but not yet completed.
- Known projects that do not require external authorisation.
- Proposals in adopted plans.
- Proposals in draft plans formally published or submitted for final consultation, examination or adoption.

2.33 The need for in-combination assessment also arises at the Appropriate Assessment stage, as discussed in the Appropriate Assessment section below.

Screening Assessment

2.34 Each Local Plan policy (and option or site allocation, where relevant) will be considered, alone and in-combination with other policies, site allocations and/or plans from neighbouring authorities.

2.35 A risk-based approach involving the application of the precautionary principle will be adopted, such that a conclusion of 'no significant effect' will only been reached where it is considered unlikely, based on current knowledge and the information available, that a Local Plan policy would have a significant effect on the integrity of a European site.

2.36 For some types of impacts, the potential for likely significant effects can 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, where assumptions have been made, these are set out in **Chapter 4** Assessment Assumptions and these will be reviewed as the HRA progresses.

2.37 A screening matrix will be prepared to assess which draft policies (and options or site allocations) are likely to have a significant effect on European sites. The screening matrix will be appended to the HRA report and will be summarised in the main body of the report. The proposed structure of the screening matrix is as follows:

- Policy/option/site allocation.
- Likely activities (operations) to result as a consequence.
- Potential effects if implemented.
- Does the policy/option/site allocation need to be scoped into the Appropriate Assessment?

2.38 Colour coding will be used in the screening matrix to record the likely impacts of each policy (and option or site allocation) on European sites and their qualifying habitats and species, using the colour categories shown below.

Purple	There are likely to be significant effects (**will require** Appropriate Assessment)
Yellow	There may be significant effects, but this is currently uncertain (**will require** Appropriate Assessment).
Green	There are unlikely to be significant effects (**will not require** Appropriate Assessment).

2.39 The Appropriate Assessment will then focus on those policies / options / site allocations that have been scoped in.

Appropriate Assessment methodology

2.40 Following the screening stage, if likely significant effects on European sites are unable to be ruled out, the plan-making authority is required under Regulation 105 of the Habitats Regulations 2017 to make an 'Appropriate Assessment' of the implications of the plan for European sites, in view of their conservation objectives. European Commission Guidance states that the Appropriate Assessment should consider the impacts of the plan (either alone or in combination with other projects or plans) on the integrity of European sites with respect to their conservation objectives and to their structure and function.

Assessing the effects on site integrity

2.41 A site's integrity depends on it being able to sustain its 'qualifying features' (i.e., those Annex 1 habitats, Annex II species, and Annex 1 bird populations for which it has been designated) and to ensure their continued viability. A high degree of integrity is considered to exist where the potential to meet a site's conservation objectives is realised and where the site is capable of self-repair and renewal with a minimum of external management support.

2.42 A conclusion needs to be reached as to whether or not the Local Plan would adversely affect the integrity of a European site. As stated in the European Commission Guidance, assessing the effects on the site(s) integrity involves considering whether the predicted impacts of the Local Plan policies (either alone or in combination) have the potential to:

- Cause delays to the achievement of conservation objectives for the site.
- Interrupt progress towards the achievement of conservation objectives for the site.
- Disrupt those factors that help to maintain the favourable conditions of the site.

- Interfere with the balance, distribution and density of key species that are the indicators of the favourable condition of the site.
- Cause changes to the vital defining aspects (e.g., nutrient balance) that determine how the site functions as a habitat or ecosystem.
- Change the dynamics of relationships that define the structure or function of the site (e.g. relationships between soil and water, or animals and plants).
- Interfere with anticipated natural changes to the site.
- Reduce the extent of key habitats or the population of key species.
- Reduce the diversity of the site.
- Result in disturbance that could affect the population, density, or balance between key species.
- Result in fragmentation.
- Result in the loss of key features.

2.43 The conservation objectives for each European site (**Appendix B)** are generally to maintain the qualifying features in favourable condition. The Site Improvement Plans for each European site provide a high level overview of the issues (both current and predicted) affecting the condition of the European features on the site(s) and outline the priority measures required to improve the condition of the features. These have been drawn on to help to understand what is needed to maintain the integrity of the European sites.

2.44 For each European site where an uncertain or likely significant effect is identified in relation to the Local Plan, the potential impacts will be set out and judgements made (based on the information available) regarding whether the impact will have an adverse effect on the integrity of the site. Consideration will be given to the potential for mitigation measures to be implemented that could reduce the likelihood or severity of the potential impacts such that there would not be an adverse effect on the integrity of the site.

Chapter 3

European Sites in and around Herefordshire

3.1 Geographical Information Systems (GIS) data have been used to map the locations and boundaries of European sites in and within 15km of the Herefordshire boundary (**Appendix A**), using publicly available data from Natural England and NRW. All European sites lying partially or wholly within 15km have been included. A distance of 15km is generally considered appropriate for identifying potential impact pathways, but European sites located beyond this distance have also been considered where they share functional ecological connectivity to impact sources associated with the Local Plan area (see **paragraph 2.20)**, for example via river systems.

3.2 European sites scoped in which are within Herefordshire or within 15km of the Herefordshire boundary are listed below. Detailed information about each site is provided in **Appendix B**.

3.3 The following European sites are located wholly or partly within Herefordshire:

- River Wye SAC (partially within the county and running from Severn Estuary in the south to north and west of county).
- River Clun SAC (located almost entirely within the county in the north).
- Downton Gorge SAC (within county in the north).
- Wye Valley Woodlands SAC (located on both sides of River Wye within and/or bordering the county in the south).

3.4 The following European sites are located outside Herefordshire but within a 15km search buffer:

- Wye Valley and Forest of Dean Bat Sites SAC (271m South East of county border).
- Coed y Cerrig SAC (4.2km South West of county border).
- Sugar Loaf Mountains SAC (6.6km South West of county border).
- Rhos Goch SAC (1.6km West of county border).
- River Usk SAC (running from Severn Estuary in the south to North West with closest point 3.4km South West of county border).
- Llangorse Lake SAC (13.9km South West of county border).
- Usk Bat Sites SAC (14.9km South West of county border).
- Cwm Clydach Woodlands SAC (14.8km South West of county border).
- Lyppard Grange Ponds SAC (13.4km North East of county border).
- Severn Estuary SPA (13.3km South East of county border).
- Severn Estuary Ramsar (13.3km South East of county border).
- Severn Estuary SAC (13.3km South East of county border).
- Walmore Common SPA (9.0km South East of county border).
- Walmore Common Ramsar (9.0km South East of county border).

3.5 In line with the approach taken in the recent HRA of the Herefordshire Minerals and Waste Local Plan, no European sites beyond 15km from the Herefordshire Boundary have been scoped into this HRA.

3.6 The attributes of these European sites which contribute to and define their integrity have been described within **Appendix B**. In doing so, reference was made to the Natura 2000 standard data forms published on the JNCC website, Natural England's Site Improvement Plans and Conservation Objectives Supplementary Advice, and Core Management Plans (including conservation objectives) from Countryside Council for Wales. This analysis enables European site interest features to be identified, along with the features of each site which determine site integrity and the specific sensitivities of the site. This

information will allow an analysis of how the potential impacts of the Local Plan may affect the integrity of each site.

Chapter 4

Assessment Assumptions

4.1 For many of the broad impacts that could arise from the Local Plan, the potential for significant effects will be determined by location, using GIS data to determine the proximity of potential development locations to the European sites that are the subject of the assessment.

4.2 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, a number of assumptions will be applied in relation to assessing the potential effects on European sites that may result from the Local Plan, as described below.

4.3 Other types of potential effect may be identified during the HRA process. If so, any assumptions that the assessment of those effects is based on will be set out in the HRA report at that time.

Physical Loss of Habitat - onsite

4.4 Any development resulting from the Local Plan would take place within Herefordshire. Therefore, only European sites within the county boundary could be affected through direct physical damage or loss of habitat from within the European site's boundaries. River Wye SAC, River Clun SAC, Downton Gorge SAC and Wye Valley Woodlands SAC are located within the Herefordshire boundary and therefore have the potential to be affected by direct physical damage and/or loss from development.

Therefore, the potential for likely signicant effects as a result of onsite physical damage and loss needs to be considered during the Screening assessment in relation to:

- River Wye SAC.
- River Clun SAC.
- Downton Gorge SAC.
- Wye Valley Woodlands SAC.

Physical Loss of Habitat - Functionally Linked Habitat

4.5 Habitat loss from development in areas outside of the 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. This includes land that may provide offsite movement corridors or foraging and sheltering habitat for mobile species such as birds, bats, and fish. European sites susceptible to the indirect effects of habitat loss are restricted to those sites with qualifying species that rely on offsite habitat. These were identified as:

- River Wye SAC (otter, migratory fish).
- Lyppard Grange Ponds SAC (great crested newt (GCN)).
- Wye Valley Woodlands SAC (bats).
- Wye Valley and Forest of Dean Bat Sites SAC (bats).
- River Usk SAC (migratory fish)
- Usk Bat Sites SAC (bats).
- Walmore Common SPA and Ramsar site (birds).
- Severn Estuary SPA and Ramsar site (birds).
- Severn Estuary SAC (migratory fish).

4.6 For other European sites, the potential for this type of impact to occur has been scoped out on account of distance between sites, the lack of

susceptibility of the qualifying features and/or a lack of a source-pathway-receptor system by which an impact could occur.

Functionally Linked Land - Otter

4.7 The River Wye SAC and River Usk SAC are both designated for supporting otter. Otter is primarily found along riparian river corridors and is known to have home ranges that extend over tens of kilometres **[See reference** 22**]**.

4.8 The River Wye SAC is located within the boundaries of the Herefordshire County and as such it is considered likely that this species will utilise and depend on the availability and connectivity of suitable riparian and wetland habitat in the wider region. As a result, there is potential for impacts on the River Wye SAC to arise from proposed development as a result of loss of functionally linked land and therefore will require further consideration during the Screening assessment.

4.9 The River Usk SAC is located outside the boundaries of Herefordshire (3.4km South West). Due to a lack of hydrological connectivity and associated riparian corridors between the River Usk SAC and watercourses in the county of Herefordshire, it is considered unlikely that this species will utilise and depend on the availability and connectivity of suitable riparian and wetland habitat in the wider region. As a result, it is unlikely that impacts on the River Usk SAC will arise from proposed development as a consequence of loss of functionally linked land, and therefore can be scoped out from further consideration at the Screening assessment.

Functionally Linked Land – Bats

4.10 The Wye Valley Woodlands SAC, Wye Valley and Forest of Dean Bat Sites SAC and Usk Bat Sites SAC are designated for qualifying bat species, including lesser horseshoe (all sites) and greater horseshoe (Wye Valley and Forest of Dean Bat Sites SAC only). These are mobile species, which rely on

habitat within the SAC and functionally linked habitat in the wider area, which provides important foraging habitat for this species.

4.11 Following a review of data sources, it was identified that these species travel within a Core Sustenance Zone (CSZ) of 2km for the lesser horseshoe bat and 3km for the greater horseshoe bat **[See reference** 23**]**, which has been applied in this assessment. This CSZ was determined by an extensive literature review and refers to the area surrounding a bat roost for lesser horseshoe bats within which habitat availability and quality will have a significant influence on the resilience and conservation of the bat colony using the roost.

4.12 Wye Valley Woodlands SAC is located within the boundaries of Herefordshire and as such it is considered likely that the qualifying bat species will utilise and depend on the availability and connectivity of habitat in the wider region and therefore will require further consideration during the Screening assessment.

4.13 Wye Valley and Forest of Dean Bat Sites SAC and Usk Bat Sites SAC are located 271m South East and 14.9km South West, respectively, from the Herefordshire border, and as such it is considered likely that only the qualifying bat species of Wye Valley and Forest of Dean Bat Sites SAC will utilise and depend on the availability and connectivity of habitat in the wider region and, therefore, require further consideration during the Screening assessment. Due to the distance of the Usk Bat Sites SAC from the county boundary, it is not expected that the qualifying bat species of this SAC rely on habitat within the Local Plan area and as such the SAC has been scoped out.

Functionally Linked Land – Great Crested Newt

4.14 Lyppard Grange Ponds SAC is designated for great crested newt (GCN). Whilst GCN is a transient species, regularly migrating between terrestrial and breeding habitats, the majority of a population will typically remain in relatively close proximity (<500m) of a breeding pond. The SAC is located 13.4km North

East of the Herefordshire County boundary and as such, no impacts upon Lyppard Grange Ponds SAC as result of offsite physical loss and damage will arise and this site can be scoped out from further assessment.

Functionally Linked Land - Birds

4.15 Walmore Common SPA and Ramsar Site are designated for supporting overwintering Bewick's swan (Cygnus columbianus bewickii), a species which regularly depends upon offsite habitat such as pastures, arable crop and stubble fields for foraging.

4.16 Severn Estuary SPA and Ramsar Site are designated for supporting wetland birds, including Bewick's swan, on passage ringed plover (Charadrius hiaticula) and overwintering curlew (Numenius arquata), dunlin (Calidris alpina alpine), pintail (Anas acuta), redshank (Tringa tetanus), and shelduck (Tadorna tadorna). These species regularly depend upon offsite habitat such as pastures, arable crop, and stubble fields for foraging.

4.17 Natural England has previously advised that its recognised distance for the consideration of offsite functionally linked land is generally 2km, but for certain bird species, including most notably, golden plover and lapwing, a greater distance of 15km may be appropriate. These buffers have been considered in relation to Walmore Common SPA and Ramsar site.

4.18 Walmore Common SPA and Ramsar is located over 2km from the Herefordshire boundary at 8.5km away and as such impacts from proposed development in the Local Plan from loss of functionally linked land used by bird species of the SPA and Ramsar site is considered unlikely and has been scoped out from further assessment.

4.19 The Severn Estuary SPA and Ramsar site are located over 2km from the Herefordshire boundary at 13.3km to the South East. Detailed surveys have been undertaken in Worcestershire and Gloucestershire, which have identified qualifying bird species using offsite habitat to forage in the Wye Valley and

Forest of Dean SAC, which is located 271m South East of the Herefordshire boundary **[See reference** 24**]**. Therefore, in line with a precautionary approach, the SPA and Ramsar site have been scoped in for further assessment at the Screening stage.

Functionally Linked Land - Fish

4.20 The River Wye SAC, River Usk SAC and Severn Estuary SAC are designated for supporting qualifying fish species. These species can be highly mobile and use aquatic habitat outside of the European sites and as such have potential to be affected by impacts from proposed development as a result of loss of functionally linked land.

4.21 The River Wye SAC is located within the boundaries of the Herefordshire and as such it is considered likely that the qualifying fish species will utilise and depend on the availability and connectivity of aquatic habitat in the wider region and therefore will require further consideration during the Screening assessment.

4.22 River Usk SAC is located 3.4km South West of the Herefordshire boundary. However, due to a lack of hydrological connectivity between the SAC and waterbodies in Herefordshire, no likely significant effects are predicted in relation to physical damage and loss of functionally linked land as a result of proposed development in the plan and as such this European site has been scoped out from further assessment.

4.23 The Severn Estuary SAC is located 13.3km South East of Herefordshire County boundary and is connected to the county via the River Wye SAC. As such it is concluded that this European Site should be further assessed at the Screening stage.

Therefore, the potential for likely signicant effects as a result of physical damage and loss to functionally linked land needs to be considered further during the Screening assessment in relation to:

- River Wye SAC.
- Wye Valley Woodlands SAC.
- Wye Valley and Forest of Dean Bat Sites SAC.
- Severn Estuary SAC, SPA and Ramsar site.

Non-Physical Disturbance

4.24 Noise and vibration effects, e.g., during the construction of new housing or other 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) is most likely to affect bat populations and some nocturnal bird species, and therefore have an adverse effect on the integrity of European sites where bats, nocturnal birds, fish and GCN are a qualifying feature.

4.25 It has been assumed (on a precautionary basis and based on our experience of previous HRAs and consultation with Natural England) that the effects of noise, vibration and light pollution can cause an adverse effect if development takes place within 500m of a European site (or functionally linked habitat) with qualifying features sensitive to these disturbances.

Non-Physical Disturbance – onsite

4.26 The following European sites are located within the Herefordshire boundary or within 500m of the boundary at the closest point and support

species likely to be significantly affected as a result of noise, vibration and light pollution, and so are scoped in for further consideration during the Screening assessment:

- River Wye SAC (white-clawed crayfish, sea lamprey, brook lamprey, river lamprey, allis shad, twaite shad, Atlantic salmon, bullhead and otter)
- Wye Valley Woodlands SAC (lesser horseshoe bat)
- Wye Valley and Forest of Dean Bat Sites SAC (lesser horseshoe and greater horseshoe)

4.27 The River Clun SAC and Downton Gorge SAC are both located within the Herefordshire boundary to the North, however, these European sites do not support qualifying features (freshwater pearl mussel and mixed woodland on rocky slopes, respectively) which are susceptible to impacts from non-physical disturbance and, therefore, these SACs have been scoped out from further assessment.

4.28 All other European sites can be scoped out from further assessment due to their location beyond 500m from the boundary of Herefordshire.

Therefore, the potential for likely signicant effects as a result of non-physical disturbance needs to be considered further during the Screening assessment in relation to:

- River Wye SAC.
- Wye Valley Woodlands SAC.
- Wye Valley and Forest of Dean Bat Sites SAC.

Non-Physical Disturbance – Functionally Linked Habitat

4.29 Non-physical disturbance may also adversely affect qualifying species at functionally linked habitat. It was established in the **Physical Loss of Habitat – Functionally Linked Habitat** section above that the following qualifying species may use functionally linked habitat within the Herefordshire boundary:

- Otter and migratory fish species of River Wye SAC
- Lesser horseshoe bat of Wye Valley Woodlands SAC
- Lesser and greater horseshoe bats of Wye Valley and Forest of Dean Bat Sites SAC
- Bird species of Severn Estuary SPA and Ramsar Site.
- Migratory fish species of Severn Estuary SAC.

4.30 Given that River Wye SAC, Wye Valley Woodlands SAC, Wye Valley and Forest of Dean Bat Sites SAC and the Severn Estuary SAC, SPA and Ramsar site all support qualifying species which are susceptible to impacts from non-physical disturbance, and which are likely to use offsite habitat within the Herefordshire boundary, these European sites have been scoped in for further consideration during the Screening assessment.

4.31 River Clun SAC, which is designated for supporting freshwater pearl mussel, and Downton Gorge SAC, which is designated for mixed woodland on rocky slopes, are located within 500m of the Herefordshire County boundary; however were not considered susceptible to impacts from non-physical disturbance and were therefore scoped out from further assessment.

4.32 All other European sites can be scoped out of further assessment given that they (and any offsite habitat associated with the sites) are located beyond 500m of the Herefordshire County boundary and/or are not susceptible to impacts from non-physical disturbance.

Therefore, the potential for likely signicant effects as a result of non-physical disturbance to functionally linked land needs to be considered further during the Screening assessment in relation to:

- River Wye SAC.
- Wye Valley Woodlands SAC.
- Wye Valley and Forest of Dean Bat Sites SAC.
- Severn Estuary SAC, SPA and Ramsar site.

Non-Toxic Contamination

4.33 Non-toxic contamination can include the creation of dust which can smother habitats preventing natural processes and may also lead to effects associated with increased sediment and dust which can potentially affect the turbidity of aquatic habitats and can also contribute to nutrient enrichment which can lead to changes in the rate of vegetative succession and habitat composition.

4.34 The effects of non-toxic contamination are most likely to be significant if development takes place within 500m of a European site with qualifying features sensitive to these disturbances, such as riparian and wetland habitats, or sites designated for habitats and plant species. This is the distance that, in LUC's experience, provides a robust assessment of effects in plan-level HRA and meets with the agreement of Natural England.

4.35 The following European sites are located within the Herefordshire boundary or within 500m of the boundary at the closest point and support qualifying habitats or species which rely on habitat that is susceptible to impacts from non-toxic contamination. As such there is potential for the following European sites to be significantly affected as a result of non-toxic contamination, and so are scoped into the assessment for further consideration during the Screening assessment:

- River Wye SAC.
- River Clun SAC.
- Downton George SAC.
- Wye Valley Woodlands SAC.
- Wye Valley and Forest of Dean Bat Sites SAC.

4.36 All the other European sites can be scoped out of further assessment given that they are located beyond 500m of the Herefordshire County boundary and/or are not susceptible to impacts from non-toxic contamination.

Therefore, the potential for likely signicant effects as a result of non-toxic contamination needs to be considered further during the Screening assessment in relation to:

- River Wye SAC.
- River Clun SAC.
- Downton George SAC.
- Wye Valley Woodlands SAC.
- Wye Valley and Forest of Dean Bat Sites SAC.

Air Pollution

4.37 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 (N) availability that can then affect plant health, productivity, and species composition.

4.38 In terms of vehicle traffic, nitrogen oxides (NOx, 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 NOx can cause eutrophication of soils and water. The HRA will refer to the UK Air Pollution Information System **[See reference** 25**]** to determine whether concentrations of NOx at the European sites are currently exceeding critical loads or not.

4.39 Based on the Highways Agency Design Manual for Road and Bridges (DMRB) Document LA105: Air Quality **[See reference** 26**]** (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.

4.40 The DMRB Guidance for the assessment of local air quality in relation to highways developments provides criteria that should be applied 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 10km/hr or more; or
- Peak hour speed will change by 20km/hr or more; or
- Road alignment will change by 5m or more.

4.41 In line with the Wealden judgment **[See reference** 27**]**, Natural England now expects to see in-combination air pollution effects assessed. The implication of the judgment 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.

4.42 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 etc.). As such, where a site is within 200m of only minor roads, no significant effect from traffic-related air pollution is considered to be the likely outcome.

4.43 There are a number of 'A' roads and two motorways (M5 and M50) within the Herefordshire boundary (+15km) as illustrated in **Appendix C**. The European sites which are situated within 200m of a strategic road are listed below:

- River Wye SAC (A438, A49, A40, A4103, A417, A479, A4079, A44, A466, A470, A481, A483, A488, A4081, A4136, A4137, A4078)
- River Clun SAC (A4113)
- Wye Valley Woodlands SAC (A40, A466, A4136)
- Wye Valley and Forest of Dean Bat Sites SAC (A4136)
- Usk Bat Sites SAC (A465)
- River Usk SAC (A4143, A472, A479, A40, A4042, A4077, A465)
- Cwm Clydach Woodlands SAC (A465)
- Walmore Common SPA & Ramsar (A48).

4.44 Other European sites have been screened out due to their distance over 200m from either a motorway or an "A" road.

Therefore, the potential for likely signicant effects as a result of air pollution needs to be considered further during the Screening assessment in relation to:

- River Wye SAC.
- River Clun SAC.
- Wye Valley Woodlands SAC.
- Wye Valley and Forest of Dean Bat Sites SAC.
- Usk Bat Sites SAC.
- River Usk SAC.
- Cwm Clydach Woodlands SAC.
- Walmore Common SPA and Ramsar site.

Recreational Pressure

4.45 Recreational activities and human presence can result in significant effects on European sites as a result of erosion and trampling, associated impacts such as fire and vandalism or disturbance to sensitive features, such as birds through both terrestrial and water-based forms of recreation.

4.46 The Local Plan will result in housing growth and associated population increase within Herefordshire. Where increases in population are likely to result in significant increases in recreation at a European site, either alone or in-combination, the potential for likely significant effects will require assessment. At this stage, there is no definitive figure of how many homes the Local Plan will make provision for over the plan period.

4.47 European sites with qualifying bird species are likely to be particularly susceptible to recreational disturbances from walking, dog walking, angling, illegal use of off-road vehicles and motorbikes, wildfowling, and water sports. An increase in recreational pressure from development therefore has the potential to disturb bird populations of SPA and Ramsar sites as a result of both terrestrial and water-based recreation.

4.48 In addition, recreation can physically damage habitat as a result of trampling and also through erosion associated with boat wash and terrestrial activities such as use of vehicles.

4.49 Each European site will typically have a 'Zone of Influence' (ZOI) within which increases in population would be expected to result in likely significant effects. ZOIs are usually established following targeted visitor surveys and the findings are therefore typically specific to each European site (and often to specific areas within a European site). The findings are likely to be influenced by a number of complex and interacting factors and therefore it is not always appropriate to apply a generic or non-specific ZOI to a European site. This is particularly the case in relation to coastal European sites, which have the potential to draw large number of visitors from areas much further afield.

4.50 In contrast to coastal European sites, the ZOI for non-coastal European sites are typically less variable, with visitors travelling from areas more local to a site. Although these sites are unique in their own right, they tend not to have the same draw as coastal sites and with recreational activities more easily managed and directed to alternative greenspace in the area.

4.51 Using a precautionary approach and based on the findings of the Monitor of Engagement with the Natural Environment (MENE) survey **[See reference** 28**]**, a ZOI of 8km has been applied to all non-coastal European sites where alternative ZOI is not available. The 8km ZOI derived from the MENE data relates to the distance of '3 to 5 miles' that approximately 12% of visitors from the Herefordshire travel to reach a natural environment. ZOIs are typically based on the distance that 75% of visitors travel from; therefore given that 78% of visitors travelled from "less than 1 mile" up to the distance of "3 to 5 miles", 8km is deemed appropriate to use as a precautionary ZOI in this assessment.

4.52 The following European sites are located within 8km of Herefordshire:

- River Wye SAC (within the county).
- River Clun SAC (within the county).
- Downton Gorge SAC (within the county).

- Wye Valley Woodlands SAC (within the county).
- Wye Valley and Forest of Dean Bat Sites SAC (0.27km).
- Rhos Goch SAC (1.6km).
- River Usk SAC (3.4km).
- Coed y Cerrig SAC (4.2km).
- Sugar Loaf Woodlands SAC (6.6km).

4.53 For the Severn Estuary SAC, SPA and Ramsar site, detailed visitor studies have been undertaken which have defined a ZOI of 7.7km **[See reference** 29**]**. This ZOI has been applied in this assessment. Given that the location of these European sites at 13.3km from the boundary of Herefordshire, no likely significant effects are expected in relation to increased recreational pressure as a result of development proposed in the Local Plan and as such these European sites have been scoped out of the assessment.

4.54 The remaining European sites, including Usk Bat Sites SAC, Lyppard Grange Ponds SAC, Llangorse Lake SAC, Cwm Clydach Woodlands SAC and Walmore Common SPA and Ramsar site are located more than 8km from the Herefordshire County boundary and so have been scoped out of the assessment.

Therefore, the potential for likely signicant effects as a result of increased recreational pressure needs to be considered further during the Screening assessment in relation to:

- River Wye SAC.
- River Clun SAC.
- Downton Gorge SAC.
- Wye Valley Woodlands SAC.
- Wye Valley and Forest of Dean Bat Sites SAC.

- Rhos Goch SAC.
- River Usk SAC.
- Coed y Cerrig SAC.
- Sugar Loaf Woodlands SAC.

Water

4.55 An increase in demand for water abstraction and treatment resulting from any growth to be proposed in the Local Plan 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.

4.56 The following sites have qualifying features that have potential to be sensitive to changes in water quantity or quality:

- River Wye SAC*
- River Clun SAC*
- Rhos Goch SAC
- River Usk SAC
- Llangorse Lake SAC
- Usk Bat Sites SAC
- Lyppard Grange Ponds SAC
- Severn Estuary SAC, SPA and Ramsar site
- Walmore Common SPA and Ramsar site

* These sites were considered in relation to water quantity and quality as they support habitats or species that rely on water and have been identified by

Natural England to be susceptible to impacts from nutrient pollution from Herefordshire County. All other sites were considered in relation to water quantity only.

4.57 All other European sites were scoped out as their qualifying features are not sensitive to changes in water quantity or quality.

Water Quantity

4.58 The majority of Herefordshire is located within the catchment of the River Wye, with the majority of the county's drinking water obtained from the river and its tributaries. Mains water in Herefordshire is supplied by Welsh Water (Dwr Cymru), who predominantly supply water from reservoirs and lowland river sources, such as the River Wye, and in part by Severn Trent Water, who supply one-third of water from groundwater sources and two-thirds from rivers, streams and reservoirs. Only 5-10% of Herefordshire's population use private water supply for domestic purposes.

4.59 Changes in water quantity due to increased demand for water supply is therefore considered a potential issue for the following sites that have qualifying features that are sensitive to changes in water levels and are hydrologically linked to the plan area:

- River Wye SAC.
- River Clun SAC.
- Rhos Goch SAC.
- River Usk SAC.
- Usk Bat Sites SAC.
- Severn Estuary SAC, SPA and Ramsar site.

4.60 These European sites have the potential to be affected by impacts in relation to water quantity and as such have been scoped in for further assessment at the Screening stage.

4.61 All other European sites can be scoped out from further assessment given that they do not have hydrological connectivity to the Local Plan area.

Therefore, the potential for likely signicant effects as a result of changes in water quantity needs to be considered further at the Screening Assessment in relation to:

- River Wye SAC.
- River Clun SAC.
- Rhos Goch SAC
- River Usk SAC
- Usk Bat Sites SAC
- Severn Estuary SAC, SPA and Ramsar site.

Water Quality

4.62 Habitats can also be affected by changes in water quality such as nutrient enrichment, changes in salinity, smothering from dust, and run-off, discharge or spillage from industry, agriculture, or construction. Changes in water abstraction, discharge and land use can also affect water quality, for example a change in land use from agriculture to residential reduces direct nutrient run-off to watercourses but increases the volume of nutrients discharges from wastewater treatment works.

4.63 Nutrient pollution is an environmental issue for many areas across England, including Herefordshire. Increased levels of nitrogen and phosphorus entering aquatic environments via surface water and groundwater can severely

threaten these sensitive habitats and species within a European site. The elevated levels of nutrients can cause eutrophication, leading to algal blooms which disrupt normal ecosystem function and cause major changes in the aquatic community. These algal blooms can result in reduced levels of oxygen within the water, which in turn can affect the populations of many aquatic organism including invertebrates and fish. In freshwater habitats and estuaries, poor water quality due to nutrient enrichment from elevated nitrogen and phosphorus levels is one of the primary reasons for habitats sites being in unfavourable condition.

4.64 Nutrient neutrality is a means of ensuring that a plan or project does not add to existing nutrient burdens so there is no net increase in nutrients as a result of the plan or project. Where nutrient neutrality is properly applied and the existing land use does not undermine the conservation objectives, Natural England considers that an adverse effect on integrity alone and in combination can be ruled out during Appropriate Assessment. Any development within the catchment of a European site with nutrient issues will be considered further during the Appropriate Assessment stage of this HRA.

4.65 Where sites are already in unfavourable condition, extra wastewater from new developments exacerbate the issue and undermine ongoing efforts to recover these sites. However, when development is designed alongside suitable mitigation measures, that additional damage can often be avoided.

4.66 In Herefordshire, Natural England has confirmed that the River Wye (the River Lugg component only), is in unfavourable condition as a result of poor water quality from nutrient enrichment from elevated phosphorus levels. Therefore, any additional development that will result in an increase in the population served by the wastewater system, which discharges into the River Lugg catchment, which is located upstream of its confluence with the River Wye, will result in a likely significant effect on the River Wye SAC. As there is potential for proposed development from the Local Plan to result in a likely significant effect from impacts relating to water quality, this European site has been scoped in for assessment at the Screening stage.

4.67 In addition to this, Natural England identified an additional European site in unfavourable condition due to excessive nutrients, which require consideration as part of the HRA and where nutrient neutrality may be a potential solution to enable development to proceed. In Herefordshire this included the River Clun SAC, which is in unfavourable condition as a result of increased levels of nitrogen and phosphorous. As there is potential for proposed development from the Local Plan to result in a likely significant effect from impacts relating to water quality, this European site has been scoped in for assessment at the Screening stage.

4.68 The River Wye SAC and River Clun SAC therefore need to be considered further at the Screening Assessment. All remaining European sites were not considered to be affected by impacts from water quality and have been scoped out from further assessment.

Therefore, the potential for likely signicant effects as a result of changes in water quality needs to be considered further at the Screening Assessment in relation to:

- River Wye SAC.
- River Clun SAC.

Summary of Screening Assumptions

4.69 The outcome of the Scoping assessment and a summary of which European sites require further assessment at the screening stage in relation to each broad impact type is summarised in **Table 4.1** below.

Table 4.1: Summary of screening assumptions

European site	Physical damage / loss of habitat	Non-physical disturbance	Non-toxic contamination	Air pollution	Recreation and urban impacts	Water quantity	Water quality
River Wye SAC	**Screened in***	**Screened in***	**Screened in**	**Screened in**	**Screened in**	**Screened in**	**Screened in**
River Clun SAC	**Screened in**	Screened out	**Screened in**	**Screened in**	**Screened in**	**Screened in**	**Screened in**
Downton Gorge SAC	**Screened in**	Screened out	**Screened in**	Screened out	**Screened in**	Screened out	Screened out
Wye Valley Woodlands SAC	**Screened in***	**Screened in***	**Screened in**	**Screened in**	**Screened in**	Screened out	Screened out
Wye Valley and Forest of Dean Bat Sites SAC	**Screened in^**	**Screened in***	**Screened in**	**Screened in**	**Screened in**	Screened out	Screened out
Coed y Cerrig SAC	Screened out	Screened out	Screened out	Screened out	**Screened in**	Screened out	Screened out
Sugar Loaf Woodlands SAC	Screened out	Screened out	Screened out	Screened out	**Screened in**	Screened out	Screened out
Rhos Goch SAC	Screened out	Screened out	Screened out	Screened out	**Screened in**	**Screened in**	Screened out
River Usk SAC	Screened out	Screened out	Screened out	**Screened in**	**Screened in**	**Screened in**	Screened out
Llangorse Lake SAC	Screened out	Screened out	Screened out	Screened out	Screened out	Screened out	Screened out

European site	Physical damage / loss of habitat	Non-physical disturbance	Non-toxic contamination	Air pollution	Recreation and urban impacts	Water quantity	Water quality
Usk Bat Sites SAC	Screened out	Screened out	Screened out	**Screened in**	Screened out	**Screened in**	Screened out
Cwm Clydach Woodlands SAC	Screened out	Screened out	Screened out	**Screened in**	Screened out	Screened out	Screened out
Lyppard Grange Ponds SAC	Screened out	Screened out	Screened out	Screened out	Screened out	Screened out	Screened out
Severn Estuary SPA	**Screened in^**	**Screened in^**	Screened out	Screened out	Screened out	**Screened in**	Screened out
Severn Estuary Ramsar site	**Screened in^**	**Screened in^**	Screened out	Screened out	Screened out	**Screened in**	Screened out
Severn Estuary SAC	**Screened in^**	**Screened in^**	Screened out	Screened out	Screened out	**Screened in**	Screened out
Walmore Common SPA	Screened out	Screened out	Screened out	**Screened in**	Screened out	Screened out	Screened out
Walmore Common Ramsar site	Screened out	Screened out	Screened out	**Screened in**	Screened out	Screened out	Screened out

*Including functionally linked habitat.

^Functionally linked habitat only.

Chapter 5

Consultation and Next Steps

5.1 This Scoping Report has introduced the HRA process that will be undertaken in relation to the new Herefordshire Local Plan. It has been produced to provide guidance for developing the Local Plan in the context of European sites and as an early reference point for stakeholders wishing to comment on the scope of the HRA.

5.2 This HRA Scoping Report is being published for consultation during early 2023. Whilst there is no formal requirement to do so at this stage, this document will be subject to consultation with Natural England and NRW to confirm that the proposed scope of the assessment is considered appropriate.

5.3 Consultees are requested to consider the following questions in particular:

- Have we correctly identified the European sites that should be scoped-in to the HRA of the Local Plan (see **Chapter 3** and **Appendix A**)?
- Have we correctly identified the sensitivities of the scoped-in European sites to potential impacts from the Local Plan (see **Chapter 4** and **Appendix B**)?
- Is the proposed approach to HRA of the Local Plan reasonable (see **Chapters 2** and **4**)?

5.4 Responses from consultees will be reviewed and any necessary amendments to the approach to and information in the HRA will be made prior to the first iteration of HRA screening.

5.5 Following the methodology set out in **Chapter 2**, the HRA report will be progressed throughout the Local Plan preparation process, with the HRA report relating to each iteration of the Local Plan being published during

consultation periods. Specific consultation on subsequent HRA Reports will be undertaken with Natural England and NRW as the statutory consultation bodies for HRA as the Local Plan progresses, as required.

5.6 After the Scoping consultation, the next stage of the HRA process (Screening) will determine whether the Local Plan will result in any likely significant effects (LSEs) on the European sites scoped in. Alongside information on the emerging Local Plan, the following key pieces of information will be reviewed at the Screening stage:

- existing avoidance and mitigation strategies for European sites;
- air pollution data from APIS in relation to European sites near to major roads; and
- water resources management plans for Herefordshire and neighbouring authorities.

5.7 European sites where Likely Significant Effects are expected will be required to proceed to Appropriate Assessment stage to determine whether the Local Plan will result in Adverse Effects on Integrity (AEoI). At that stage, the Appropriate Assessment can take into account any mitigation, such as safeguards embedded within Local Plan policies.

LUC
January 2023

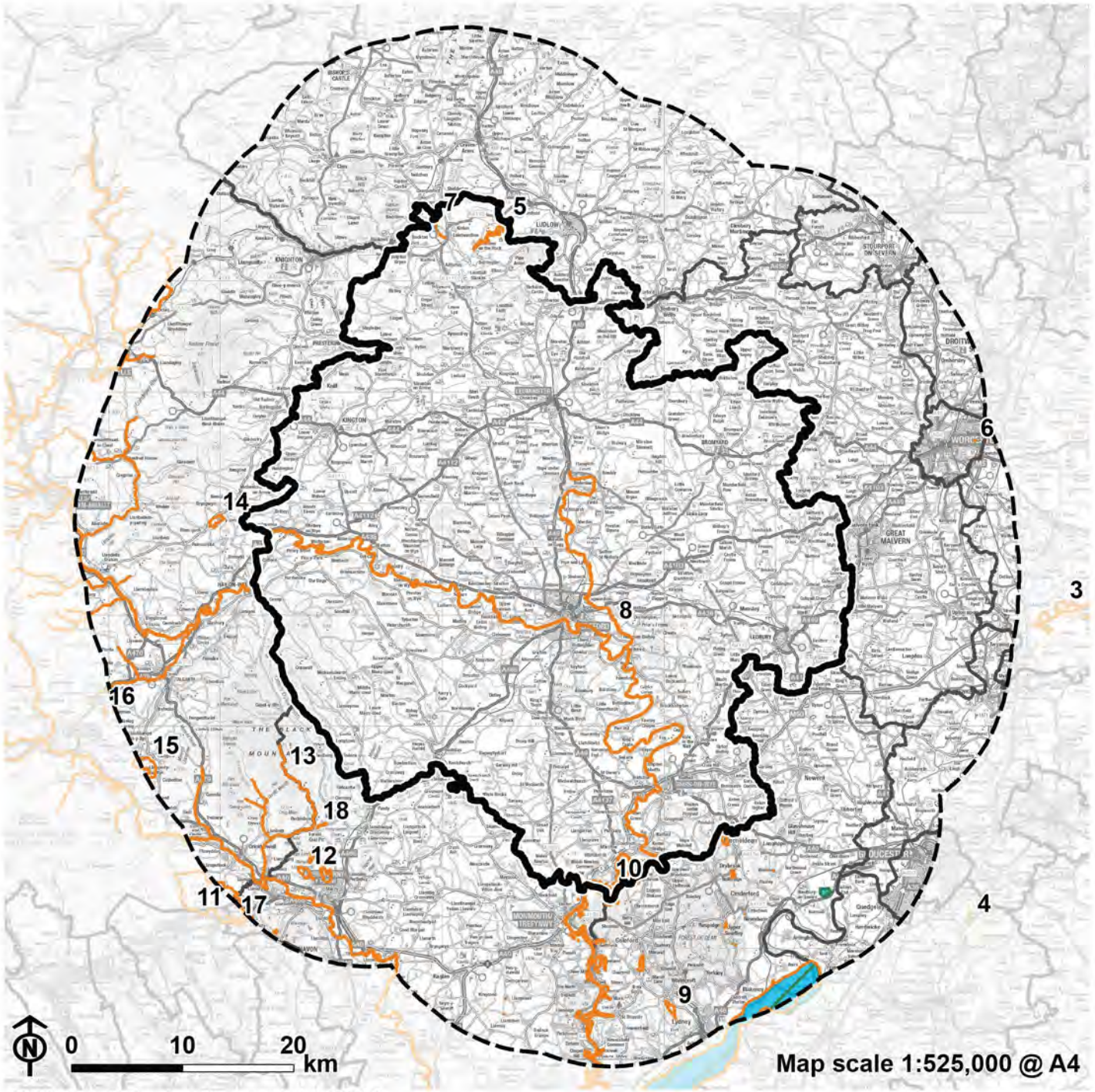
Appendix A

European Sites scoped into the assessment

SA and HRA of the
Herefordshire Local Plan
Herefordshire Council

LUC

Figure A1: European Sites within 15km of Herefordshire



- Herefordshire Council
- Neighbouring local authority
- Buffer 15km
- Ramsar
- SAC
- SPA

1: Walmore Common
2: Severn Estuary
3: Bredon Hill
4: Cotswold Beechwoods
5: Downton Gorge
6: Lyppard Grange Ponds
7: River Clun
8: River Wye
9: Wye Valley & Forest of Dean Bat Sites
10: Wye Valley Woodlands
11: Usk Bat Sites
12: Sugar Loaf Woodlands
13: River Usk
14: Rhos Goch
15: Llangorse Lake
16: Drostre Bank
17: Cwm Clydach Woodlands
18: Coed y Cerrig

Source: OS, NE

EB:bjerketvedt_l LUC
12288_FigA1_r1_EuropeanSites_A4L_Accessible
16/01/2023

Appendix B

European Site Information

This appendix contains information about the European sites scoped into the HRA. Information about each site's area, the site descriptions, qualifying features and pressures and threats are drawn from Natural England's Site Improvement Plans (SIPs) **[See reference** 30**]**Natural Resource Wales documents regarding core management plans and conservation objectives **[See reference** 31**]**, and Standard Data Forms or Ramsar Information Sheets available from the JNCC website **[See reference** 32**]**, which advise on the sites features and how to implement the conservation objectives. Site conservation objectives are drawn from Natural England's website and are only available for SACs and SPAs **[See reference** 33**]**.

European sites within (or partly within) Herefordshire

River Wye SAC

The River Wye SAC covers 250km of relatively natural and unmodified main river with a near-natural fluvio-geomorphological regime. The upland reaches, from the source in Powys, has a bryophyte dominated vegetation which progresses into extensive water crowfoot Ranunculus beds in the lowland reaches in England.

The lower 23km is transitional habitat to the confluence with the Severn Estuary. The river supports several internationally important migratory fish, including Atlantic Salmon, Lamprey and Shad species. Otters are widespread.

Area (ha):

- 2234.89

Location:

- Fragmented site both beyond the county boundary to the west within Monmouthshire and Powys, south within Gloucestershire, and within the county to the south and west.

Annex I habitats that are a primary reason for selection of this site:

- Water courses of plain to montane levels with the *Ranunculion fluitantis* and Callitricho-Batrachion vegetation

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:

- Transition mires and quaking bogs; very wet mires often identified by an unstable ‘quaking’ surface

Annex II species that are a primary reason for selection of this site:

- *Austropotamobius pallipes*; White-clawed (or Atlantic stream) crayfish
- Petromyzon marinus; Sea lamprey
- Lampetra planeri; Brook lamprey
- *Lampetra fluviatilis*; River lamprey
- *Alosa fallax*; Twaite shad

- Salmo salar; Atlantic salmon
- *Cottus gobio*; Bullhead
- Lutra lutra; Otter

Annex II species present as a qualifying feature, but not a primary reason for selection of this site:

- *Alosa alosa*; Allis shad

Key vulnerabilities and environmental conditions to support site integrity

The River Wye is currently facing increased water pollution, so the implementation of a Diffuse Water Pollution Plan and Nutrient Management Plan is necessary. In addition, the poor siting of infrastructure causes excessive runoff and hydrological changes. Invasive species are present throughout the catchment and require a biosecurity strategy. There is a need for forestry and woodland management to balance management and risks with fisheries management, navigation, and flood risk management. The management of banks and vegetation by river users is not always compatible with the SAC features. Increased scrub and woodland and undergrazing are affecting the structure and composition of the transitional mire and quaking bog at Colwyn Brook Marshes. Appropriate management of Network Rail's assets is necessary to ensure that the SAC features are taken into account when producing a site management statement.

Natural England's Site Improvement Plan for the SAC identifies the main threats facing the site to be the decreasing quality of water; small scale development impacting the hydromorphology and character; the invasive species of Himalayan Balsam (*Impatiens glandulifera*), Japanese Knotweed (*Reynoutria japonica*), Giant Hogweed (*Heracleum mantegazzianum*) and hybrids; lack of

communication between management levels; incompatibility between fishery management and SAC features; outdated water abstraction agreement; pressure from public access; the risk of atmospheric nitrogen deposition which exceeds site relevant critical loads; inappropriate scrub control; undergrazing; and poor site management when undertaking works on Network Rail's assets.

Natural England conservation objectives

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

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

Non-qualifying habitats and species upon which the qualifying habitats and/or species depend

- Flora

  Water courses of plain to montane levels with the *Ranunculion fluitantis* and Callitricho-Batrachion vegetation – this habitat is characterized by presence of Water-crowfoots (*Ranunculus spp.*) and its hybrids. There were three sub-types of the habitat which diversity depends on the geology and river type. In each sub-type, *Ranunculus* species are associated with a different assemblage of other aquatic plants which

could include Water-cress (*Rorippa nasturtium-aquaticum*), Water-starworts (*Callitriche spp.*) Water-parsnips (*Sium latifolium* and *Berula erecta*), Water-milfoils (*Myriophyllum spp.*) and Water forget-me-not (*Myosotis scorpioides*).

Transition mires and quaking bogs – it is characterized by very wet mires often with unstable 'quaking' surface and changes of the surface pH conditions which range from acidic to slightly base-rich. In correlation, one can find diverse flora adapted to the conditions such as acidophile and calciphile or basophile. As such they represent transitional zone between bogs and fen, or could be found as part of succession if isolated.

- Fish

Allis shad (*Alosa alosa*)

- Habitats: grows in coastal waters and estuaries. Migrate up to 800km upstream into continental Europe to spawn where they are not keen on traversing obstacles such as dams and weirs.
- Diets: smaller fish, plankton, water invertebrates and sometimes even fish eggs

Twaite shad (*Alosa fallax*)

- Habitats: habitat requirements are not fully understood
- Diets: smaller fish, plankton, water invertebrates and sometimes even fish eggs

White-clawed (or Atlantic stream) crayfish (*Austropotamobius pallipes*)

- Habitats: diverse variety of clean aquatic habitats with preference on hard-water stream and rivers.
- Diets: water invertebrates, carrion, water plants and dead organic matter

Bullhead (*Cottus gobio*)

- Habitats: fast-flowing, clear shallow rivers, streams and stony lakes. Water needs to be well oxygenated as it does not tolerates badly polluted waters.
- Diets: eats anything that can find from planktons and water invertebrates to fish eggs

River lamprey (*Lampetra fluviatilis*)

- Habitats: coastal waters, estuaries and accessible rivers. The species is anadromous, i.e. spawns in freshwater and spends part of the life in the sea. Water pollution and obstacles (weirs and dams) impede the migration.
- Diets: as young: algae, detritus and bacteria; as adults: other fish's bodily fluids and carrion

Brook lamprey (*Lampetra planeri*)

- Habitats: non-migratory species found in freshwater slow-running streams and lakes.
- Diets: bacteria, algae and other type of detritus from water and mud

Sea lamprey (*Petromyzon marinus*)

- Habitats: warm estuaries and easily accessible rivers. The species is anadromous, i.e. spawns in freshwater and spends part of the life in the sea. Needs warm water with gravel and silt or sand for spawning and burrowing juvenile ammocoetes. Water pollution and obstacles (weirs and dams) impede the migration.
- Diets: young: micro-organisms; adults: suck blood of other fishes

Atlantic salmon (*Salmo salar*)

- Habitats: fast-flowing, shallow clear waters of rivers and streams. The species is anadromous, i.e. spawns in freshwater and spends part of the life in the sea. Water pollution and obstacles (weirs and dams) could impede the migration.
- Diets: young: water invertebrates; adults: smaller fishes

- Mammals:

Lutra lutra; Otter

- Habitats: shallow coastal areas for feeding, inland freshwater for bathing and terrestrial areas for resting and breeding. They could be found in sheltered wooded inlets, vegetated river banks, islands and reedbeds with a range or running and standing freshwater, to low-laying coasts.
- Diets: fish, crustaceans, molluscs, amphibians, waterbirds and small mammals.

Downton Gorge SAC

Downton Gorge was formed by the River Teme cutting through a ridge of limestones, siltstones and sandstones. With its rocky cliffs and steep dingles the Gorge supports an area of ancient semi-natural woodland of varying types including Tilio-Acerion forest. The Large Leaved Lime is an example of a nationally rare tree which is prevalent on the site.

Area (ha):

- 68.88

Location:

- Fragmented site lying to the north within the county.

Annex I habitats that are a primary reason for selection of this site:

- Tilio-Acerion forests of slopes, screes and ravines; Mixed woodland on base-rich soils associated with rocky slopes

Key vulnerabilities and environmental conditions to support site integrity

Deer are having an adverse impact on woodland vegetation and are affecting the vertical woodland structure. Without improvements in their management, the deer population will impose long-term changes on the composition of the site's woodland. There is evidence that the large number of pheasants that are reared each year are causing some damage to the ground flora. Most woodland management on the sites is carried out as part of NNR management and therefore generally is done sympathetically within the SAC itself; however, there are a few small issues. Monitoring for the presence and extent of *Phytophthora* disease and Ash-die back disease, *Chalara*, is required. Several invasive species are present and need to be contained and reduced.

Natural England's Site Improvement Plan for the SAC identifies the main threats facing the site to be the adverse impact of deer; the over rearing of pheasants by game management; a few small scale issues with forestry and woodland management; the spread of disease; several invasive species; and the risk of atmospheric nitrogen deposition which exceeds site relevant critical loads.

Natural England conservation objectives

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

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

- The populations of qualifying species.
- The distribution of qualifying species within the site.

Non-qualifying habitats and species upon which the qualifying habitats and/or species depend

- Flora
  - Tilio-Acerion forests of slopes, screes and ravines – habitat characterised by nutrient rich soils that accumulates at basses of shady ravines, cliffs, coarse scree and steep rocky slopes. It could e found as scattered patches or as narrow strips along stream sides.

River Clun SAC

Area (ha):

- 14.93

Location:

- Fragmented site both beyond the county boundary to the north within Shropshire and north within the county.

Annex II species present as a qualifying feature, but not a primary reason for selection of this site:

- Margaritifera margaritifera; Freshwater pearl mussel

Key vulnerabilities and environmental conditions to support site integrity

Siltation and water pollution are major issues affecting the health of Freshwater Mussel, especially juveniles. In addition, the stressed and aging population of Freshwater Mussel is very vulnerable to low breeding success and one-off events, such as, floods, droughts, and pollution. Disease in the trees of the area is causing issues with siltation and nutrient enrichment. Dead trees are leading to less stable banksides and contributing directly to bankside erosion/ increased siltation. Weirs and dams are affecting the movement of migratory salmonids on which the mussels depend. Current and future changes in land management in the catchment, particularly intensification of farming practices, are a concern.

Natural England's Site Improvement Plan for the SAC identifies the main threats facing the site to be the increasing pressure of siltation; loss of suitable habitats and food sources through water pollution; low breeding success of Freshwater Mussel; the spread of disease; physical modification; the invasive species of Himalayan balsam; and the change in land management.

Natural England conservation objectives

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

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

Non-qualifying habitats and species upon which the qualifying habitats and/or species depend

- Molluscs

  Freshwater pearl mussel (*Margaritifera margaritifera*)

  - Habitats: fast-flowing rivers and stream with sandy substrates between pebbles and boulders. The water needs to be cool, well oxygenated soft and free from turbidity and pollution.
  - Diets: filters water to ingest fine particles of organic matter

European sites outside Herefordshire but within 15km

Rhos Goch SAC

Area (ha):

- 67.59

Location:

- Fragmented site beyond the county boundary to the west within East Wales.

Annex I habitats that are a primary reason for selection of this site:

- Active raised bogs
- Transition mires and quaking bogs

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:

- Molina meadows on calcareous, peaty, or clayey-silt-laden soils (*Molinion caeruleae*)
- Bog woodland
- Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* ((Alno-Padion, *Alnion incanae*, *Salicion albae*)

Key vulnerabilities and environmental conditions to support site integrity

Habitat quality did not reach its targets. There are ongoing programmes of scrub control within the transition mire zone and rush control within the swamp zone on the common, so recovery has been assumed. Currently, the threat of air pollution is high since the atmospheric nitrogen deposition exceeded site relevant critical loads. Measures have not been put into place to improve the air quality. Problematic native species is a serious threat.

Natural England conservation objectives

Each conservation objective is a composite statement defining a site-specific aspiration for each designated feature. This composite statement contains clauses that correspond to all the elements of FCS, namely:

For habitat features:

- Extent should be stable in the long term, or where appropriate increasing.

- Quality (including in terms of ecological structure and function) should be being maintained, or where appropriate improving.
- Populations of the habitat's typical species must be being maintained or where appropriate increasing.
- Factors affecting the extent and quality of the habitat and its typical species (and thus affecting the habitat's future prospects) should be under appropriate control.

For species features:

- The size of the population should be stable or increasing, allowing for natural variability, and sustainable in the long term.
- The distribution of the population should be being maintained.
- There should be sufficient habitat, of sufficient quality, to support the population in the long term.
- Factors affecting the population, or its habitat should be under appropriate control.

Non-qualifying habitats and species upon which the qualifying habitats and/or species depend

- Plants

  Active raised bogs – are defined by active microtopography (mixture of flat and sloping topography) rich with peat-forming species, and water draining zone (i.e. lagg). There are different types of raised bogs which are characterised by the dominant floral species.

Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (Alno-Padion, *Alnion incanae*, *Salicion albae*) – found on flood plains which are influenced by inundation. Such habitats could be found on base-rich eutrophic soils on islands in river channels to low-lying wetlands alongside the channels.

Bog woodland – characterised by bog habitat populated with scattered trees. It is influenced by water quantity, it's pH and quality of soil anaerobic conditions which are important for adequate tree development.

Molina meadows on calcareous, peaty, or clayey-silt-laden soils (*Molinion caeruleae*) – are found on moist, base-rich, peats and peaty clay soils which are influenced by fluctuating water tables.

Transition mires and quaking bogs – it is characterized by very wet mires often with unstable 'quaking' surface and changes of the surface pH conditions which range from acidic to slightly base-rich. In correlation, one can find diverse flora adapted to the conditions such as acidophile and calciphile or basophile. As such they represent transitional zone between bogs and fen, or could be found as part of succession if isolated.

Llangorse Lake SAC

Area (ha):

- 215.44

Location:

- Outside of the county boundary to the southwest within East Wales.

Annex I habitats that are a primary reason for selection of this site:

- Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation

Key vulnerabilities and environmental conditions to support site integrity

A natural eutrophic lake of glacial origin with higher nutrient levels than those of oligotrophic, dystrophic, or mesotrophic lakes, which results in higher natural productivity, and are typically species rich. Water quality and sedimentation are of high importance in the area for the maintenance of its very special plants and animals. Natural erosion makes the lake vulnerable to any extra sediment that may enter the lake from sources other than the natural inputs. There is some pressure from recreation since the lake is a popular location for water-based activities, but guidelines have been drawn up by Llangorse Lake Advisory Group to ensure water users are aware of the wildlife of the lake and how to act in a responsible manner. The other habitats around the lake, such as the fen, woodlands, and grassland, require proper management. Non-native species, including Canada geese and Canadian pondweed exist in and around the lake. Further research is required regarding their impact.

Natural England conservation objectives

The vision for this feature is for it to be in a favourable conservation status, where all the following conditions are satisfied:

- There is no loss of lake area, as defined in 2006 aerial photographs for summer levels.
- The aquatic plant community is typical of this lake type in terms of composition and structure, including species such as water-starworts, stoneworts, duckweeds, broad-leaved and fineleaved pondweeds, water

lilies, amphibious bistort, water-crowfoots, rigid hornwort, spiked water-milfoil, mare's-tail and horned pondweed.

- Plants indicating very high nutrient levels and excessive silt loads are not dominant and invasive non-native water plants do not threaten to out-compete the native flora.
- The nutrient, pH and dissolved oxygen levels are typical for a lake of this type and there is no excessive growth of cyanobacteria or green algae.
- There is a natural hydrological regime.
- The natural shoreline is maintained.
- The natural and characteristic substrate is maintained.
- The natural sediment load maintained.
- All factors affecting the achievement of these conditions are under control.

Non-qualifying habitats and species upon which the qualifying habitats and/or species depend

- Plants

  Natural eutrophic lakes with Magnopotamion or Hydrocharition - type vegetation – they are dependent on the nutrients amount within the lakes, geography, topography and climatic conditions. They are formed on soft rocks where wave-washed rocky shores form important part of the habitat.

Usk Bat Sites SAC

Area (ha):

- 1686.025

Location:

- Outside of the County boundary to the southwest within East Wales, West Wales and the Valleys.

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:

- European dry heaths
- Degraded raised bogs still capable of natural regeneration
- Blanket bogs
- Calcareous rocky slopes with chasmophytic vegetation
- Caves not open to the public
- Tilio-Acerion forests of slopes, screes, and ravines

Annex II species present that are a primary reason for selection of this site:

- Rhinolophus hipposideros: Lesser horseshoe bat

Key vulnerabilities and environmental conditions to support site integrity

The Usk Valley area contains one of the largest maternity roosts for lesser horseshoe bats as well as several important hibernacula in caves in the area. The area contains up to 5% of the UK population, though counts in hibernation sites suggest this may be an underestimate. The nursery roost

sites need to be maintained in a suitable condition. It is very important for the bat access points to remain open and be of a suitable size. Habitat management must also be maintained since lesser horseshoe bats tend to feed in wooded areas and use linear features to navigate their way between roosts and foraging habitat. Sensitive management of woodlands and hedgerows and trees will be necessary to preserve these features.

Natural England conservation objectives

The vision for this feature is for it to be in a favourable conservation status, where all the following conditions are satisfied:

- The site will support a sustainable population of lesser horseshoe bats in the River Usk area.
- The population will be viable in the long term, acknowledging the population fluctuations of the species.
- Buildings, structures, and habitats on the site will be in optimal condition to support the populations.
- Sufficient foraging habitat is available, in which factors such as disturbance, interruption to flight lines, and mortality from predation or vehicle collision, changes in habitat management that would reduce the available food source are not at levels which could cause any decline in population size or range.
- Management of the surrounding habitats is of the appropriate type and sufficiently secure to ensure there is likely to be no reduction in population size or range, or any decline in the extent or quality of breeding, foraging or hibernating habitat.
- There will be no loss or decline in quality of linear features (such as hedgerows and tree lines) which the bats use as flight lines – there will be no loss of foraging habitat use by the bats or decline in its quality, such as due to over-intensive woodland management.
- All factors affecting the achievement of the above conditions are under control.

Non-qualifying habitats and species upon which the qualifying habitats and/or species depend

- Plants

  Blanket bogs – dependent on high rainfall and small evapotranspiration, topography, climatic factors, altitude and geography. Based on those factors, different blanket bogs were formed into five known associations.

  Calcareous rocky slopes with chasmophytic vegetation – characterised by rock base and their plant communities colonise cracks and fissures of rock faces. Variations in floral communities are dependent on geographic location, altitude and rock type.

  Degraded raised bogs still capable of natural regeneration – occur as consequence of widespread disruption, usually by human. Their appearance can influence hydrology, vegetation and physical structures of the bog, which could lead to desiccation, oxidation and changes in floral communities, i.e. natural succession towards different habitat type.

  European dry heaths – appears on well-drained, acidic to circumneutral soils with mainly low nutrient contents. The floral and faunal communities are dependent on climatic conditions, altitude, aspect, soil conditions, maritime influence, and grazing and burning intensity.

  Tilio-Acerion forests of slopes, screes, and ravines - habitat characterised by nutrient rich soils that accumulates at basses of shady ravines, cliffs, coarse scree and steep rocky slopes. It could e found as scattered patches or as narrow strips along stream sides.

- Topographic structure

  Caves not open to the public – they are characterised by not being open to tourism and which host endemic cave species or population of Annex II species. Those species are influenced by cave's microclimate which forms specific floral and faunal communities.

- Mammals

  Lesser horseshoe bat (*Rhinolophus hipposideros*)

- Habitat: sheltered valleys close to deciduous woodlands or dense scrub located close to roosts. Linear features such as hedgerows help connect fragmented habitats which helps bats connect roosts with foraging locations. They are also influenced by temperature which defines their foraging, breeding and hibernating locations. They prefer to hibernate in caves which should not be more than 5-10km apart.
- Diet: terrestrial invertebrates such as spiders, moths, midges and flies.

Cwm Clydach Woodlands SAC

Area (ha):

- 28.08

Location:

- Outside of the County boundary to the southwest within West Wales and The Valleys.

Annex I habitats present that are a primary reason for selection of this site:

- Asperulo-Fagetum beech forests

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:

- Atlantic acidophilous beech forests with *Ilex* and sometimes also *Taxus* in the shrublayer (Quercion robori-petraeae or Ilici-Fagenion)

Key vulnerabilities and environmental conditions to support site integrity

Most of the woodland at the site is mature and appears to require little active management. However, over recent years, many of the beech trees are old and have fallen. In some areas there is good regeneration of beech, and in time, these should grow and fill the gaps. Some areas with the woodland should be retained as permanent open glades to benefit butterflies and other invertebrates and scrub encroachment should be controlled in these areas. Past grazing has influenced the structure of the woodland, such as the dominance of beech in the canopy. It is therefore likely that occasional light grazing would be beneficial for the woodland habitat, although any increase in grazing pressure could prevent all tree and shrub regeneration and suppress the woodland ground flora. Due to roads passing through the site, parts are accessible to vehicles and the illegal dumping of domestic and commercial waste and abandoned vehicles can be a problem. Barriers put in place several years ago have been successful in preventing vehicles (some of which have been later burnt) being driven along the railway track. It is essential that these barriers be maintained to prevent any future occurrences. Japanese knotweed is also a problem in parts of the site, usually having been introduced by illegal dumping of waste material, and this species will be controlled as necessary.

Natural England conservation objectives

The vision for this feature is for it to be in a favourable conservation status, where all the following conditions are satisfied:

- At least 50% of the canopy-forming trees are beech.
- The canopy cover is at least 80% (excluding areas of crag) and composed of locally native trees.
- The woodland has trees of all age classes with a scattering of standing and fallen dead wood.

- Regeneration of trees is sufficient to maintain the woodland cover in the long term.
- The shrub layer and ground flora can be quite sparse, but where present consist of locally native plants such as yew, hawthorn, wych elm, ash, hazel, field maple and elder, bramble, dog's mercury, enchanter's-nightshade, lords-and-ladies, woodruff, male fern, sanicle, wood melick, ivy, false brome, violets, herb robert, wood avens, and tufted hair-grass.
- Scarcer plants, such as soft-leaved sedge and bird's-nest orchid are locally frequent and, more rarely, yellow bird's-nest orchid can be found.
- All factors affecting the achievement of the above conditions are under control.

Non-qualifying habitats and species upon which the qualifying habitats and/or species depend

- Plants

  Asperulo-Fagetum beech forests – includes two types of association which are dependent on the slope inclination and soil type.

  Atlantic acidophilous beech forests with *Ilex* and sometimes also *Taxus* in the shrublayer (Quercion robori-petraeae or Ilici-Fagenion) – this type includes two associations which are dependent on soil type and humid climatic conditions.

Coed y Cerrig SAC

Area (ha):

- 8.99

Location:

- Outside of the County boundary to the southwest within West Wales and The Valleys.

Annex I habitats present that are a primary reason for selection of this site:

- Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae)

Key vulnerabilities and environmental conditions to support site integrity

Coed y Cerrig is a good example of an alluvial forest in southern Wales. Small-scale coppicing over a long cycle is desirable to maintain the dominance of alder and create a varied canopy structure in the wet woodland. More frequent coppicing is required to maintain the open glades that are dominated by sedge swamp. Past sporadic grazing in the wet woodland may have restricted the ash content and light grazing can have some positive benefits on overall species composition. However, the marsh fern and other grazing sensitive plants would be at risk from uncontrolled and anything more than light grazing. The alder woodland and associated swamp, marshy grassland and spring-fed mire, as well as the marsh fern, are found in areas of impeded drainage in the valley bottom. There should be no drainage works that could interfere with the springs and the generally waterlogged ground. The wet woodland has developed relatively fertile valley soils because nutrients accumulate here as a result of down-slope water movement and leaf-fall. However, further enrichment from agricultural run-off would promote dominance by weed species, such as nettles. No new agricultural drains should be routed into the site and existing drains may need to be diverted if they are causing an enrichment problem. To minimise trampling damage within the wet woodland, boardwalks and footpaths must be maintained.

Natural England conservation objectives

The vision for this feature is for it to be in a favourable conservation status, where all the following conditions are satisfied:

- Around a third of the site is covered by wet alder and willow woodland.
- This wet woodland grades into areas of permanent open swamp dominated by lesser pond-sedge or other typical wetland plants, where the hydrological conditions are suitable. Adjacent areas of marshy grassland and spring-fed mire are intimately linked to the wet woodland and swamp.
- The remainder of the site supports mainly dry semi-natural woodland.
- The wet woodland has a variable canopy structure, based on a small-scale patchwork, with alder of different ages and some standing as well as fallen dead wood. Ash does not make up more than 25% of the canopy.
- Young trees/saplings and/or vegetative re-growth of the above species are present.
- The understorey includes locally native shrubs typical of this habitat and the ground flora consists of a variety of typical wetland plants, such as lesser pond-sedge, common marsh-bedstraw, meadowsweet, yellow pimpernel, opposite-leaved golden-saxifrage, marsh-marigold, hemlock water-dropwort, water mint, lady fern and rushes.
- Plants associated with nutrient enrichment, such as stinging nettle and cleavers, are not dominant over large areas and invasive alien plants like Japanese knotweed and Indian balsam are absent.
- This wet woodland grades into areas of permanent open swamp dominated by lesser pond-sedge or other typical wetland plants, where the hydrological conditions are suitable. Adjacent areas of marshy grassland and spring-fed mire are intimately linked to the wet woodland and swamp.
- There is no significant input of nutrient-rich water from ditches and surrounding land.
- All factors affecting the achievement of these conditions are under control.

Non-qualifying habitats and species upon which the qualifying habitats and/or species depend

- Plants

  Alluvial forests with Alnus glutinosa and Fraxinus excelsior (Alno-Padion, Alnion incanae, Salicion albae) - found on flood plains which are influenced by inundation. Such habitats could be found on base-rich eutrophic soils on islands in river channels to low-lying wetlands alongside the channels.

Sugar Loaf Woodlands SAC

Area (ha):

- 173.09

Location:

- Outside of the County boundary to the southwest within West Wales and The Valleys.

Annex I habitats present that are a primary reason for selection of this site:

- Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles

Key vulnerabilities and environmental conditions to support site integrity

Canopy regeneration is a key attribute for signifying the functioning, habitat quality and sustainability of most woodland types, including sessile oak woods.

Grazing has suppressed the regeneration of native woody species and in combination with past coppicing has resulted in a uniform age structure. Discussing possible means of managing grazing with owners/commoners is necessary to encourage natural regeneration in the woodland area, including possible agreements to fence all new and some existing canopy gaps.

Managing woodland will entail controlling the spread of non-native species (principally beech) through a programme of selective removal of saplings to ensure no further trees get into the canopy. Much of the woodland lacks structure due to past woodland management to remove timber. It is likely to be decades before a more natural woodland structure can develop. Deadwood is present on the site, but much has been removed in the past. In future, the owners should be encouraged to leave as much dead wood as possible.

Retention of veteran trees is necessary. Bracken may require management where it is thought to be hindering successful regeneration, largely in the open areas and gaps. However, this needs to be balanced against the protection bracken offers for young saplings against browsing and its place as a key natural component of acidic woodlands.

Natural England conservation objectives

The vision for this feature is for it to be in favourable conservation status within the site, as a functioning and regenerating* oak wood, where all the following conditions are satisfied:

- The wooded area is no less than 122 ha.
- The remainder of the site is semi-natural acid grassland, heathland, bracken and scrub, often forming a transition zone at the woodland edge.
- Saplings of birch betula spp, oak Quercus petraea, alder Alnus glutinosa or holly Ilex aquifolium dominate the tree regeneration.
- Young beech Fagus sylvatica and sycamore Acer pseudoplatanus trees are rare.

- The woodland ground flora is composed of a range of typical native plants including bilberry Vaccinium myrtillus, wavy-hair grass Deschampsia flexuosa and the mosses Plagiothecium undulatum, Rhytidiadelphus loreus, Dicranum majus.
- The liverwort Bazzania trilobata to continue to be present in its core area of Unit 1.
- All factors affecting the achievement of these conditions will under control.

* A "functioning and regenerating oak woodland" would include all the positive attributes described in the performance indicators.

Non-qualifying habitats and species upon which the qualifying habitats and/or species depend

- Plants

  Old sessile oak woods with *Ilex* and *Blechnum* in the British Isles – this type is dependent on base-poor soils and moderately high rainfall. Its floral communities are characterised by diversity in rainfall, slope, aspect, soil depth, and past and present woodland management.

River Usk SAC

Area (ha):

- 967.97

Location:

- Outside of the County boundary to the southwest within East Wales, West Wales, and The Valleys.

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:

- Water courses of plain to montane levels with the *Ranunculion fluitantis* and Callitricho-Batrachion vegetation

Annex II species present that are a primary reason for selection of this site:

- Petromyzon marinus: Sea lamprey
- *Lampetra planeri*: Brook lamprey
- *Lampetra fluviatillis*: River lamprey
- *Alosa fallax*: Twaite shad
- *Salmo salar*: Atlantic salmon
- *Cottus gobio*: Bullhead
- *Lutra Lutra*: Otter

Annex II species present as a qualifying feature, but not a primary reason for selection of this site:

- *Alosa alosa*: Allis shad

Key vulnerabilities and environmental conditions to support site integrity

The factors that led to an unfavourable assessment are the presence of probable partial barriers further downstream (notably Crickhowell Bridge), and

flow depletion resulting from abstractions including Brecon canal and Prioress Mill public water supply abstraction. The latter in particular has been shown to have effects both on a seasonal timescale by reducing spate flows during the migration period and on a diurnal timescale by substantially depleting flows during the night time to the extent that sea lamprey nests and nursery areas are likely to be exposed above the water level. The effect of the Brecon canal abstraction has been shown to comprise a substantial depletion of flows, at least locally, during low flow periods with a resulting reduction in river depth downstream of the off-take weir.

Natural England conservation objectives

Conservation Objective for the water course:

- The capacity of the habitats in the SAC to support each feature at near-natural population levels.
- The ecological status of the water environment should be sufficient to maintain a stable or increasing population of each feature.
- Flow regime, water quality and physical habitat should be maintained in, or restored as far as possible to, a near-natural state.
- All known breeding, spawning and nursery sites of species features should be maintained as suitable habitat as far as possible, except where natural processes cause them to change.
- Flows, water quality, substrate quality and quantity at fish spawning sites and nursery areas will not be depleted by abstraction, discharges, engineering or gravel extraction activities or other impacts to the extent that these sites are damaged or destroyed.
- The river planform and profile should be predominantly unmodified.
- River habitat SSSI features should be in favourable condition.
- Artificial factors impacting on the capability of each species feature to occupy the full extent of its natural range should be modified where necessary to allow passage.

- Natural factors should not be modified.
- Flows during the normal migration periods of each migratory fish species feature will not be depleted by abstraction to the extent that passage upstream to spawning sites is hindered.
- Flow objectives for assessment points in the Usk Catchment Abstraction Management Strategy will be agreed between EA and CCW.
- Levels of nutrients, in particular phosphate, will be agreed between EA and CCW for each Water Framework Directive water body in the Usk SAC.

Non-qualifying habitats and species upon which the qualifying habitats and/or species depend

- Plants

  Water courses of plain to montane levels with the *Ranunculion fluitantis* and Callitricho-Batrachion vegetation - this habitat is characterized by presence of Water-crowfoots (*Ranunculus spp.*) and its hybrids. There were three sub-types of the habitat which diversity depends on the geology and river type. In each sub-type, *Ranunculus* species are associated with a different assemblage of other aquatic plants which could include Water-cress (*Rorippa nasturtium-aquaticum*), Water-starworts (*Callitriche spp.*) Water-parsnips (*Sium latifolium* and *Berula erecta*), Water-milfoils (*Myriophyllum spp.*) and Water forget-me-not (*Myosotis scorpioides*).

- Fish

  Allis shad (*Alosa alosa*)

  - Habitats: grows in coastal waters and estuaries. Migrate up to 800km upstream into continental Europe to spawn where they are not keen on traversing obstacles such as dams and weirs.
  - Diets: smaller fish, plankton, water invertebrates and sometimes even fish eggs

  Twaite shad (*Alosa fallax*)

- Habitats: habitat requirements are not fully understood
- Diets: smaller fish, plankton, water invertebrates and sometimes even fish eggs

Bullhead (*Cottus gobio*)

- Habitats: fast-flowing, clear shallow rivers, streams, and stony lakes. Water needs to be well oxygenated as it does not tolerate badly polluted waters.
- Diets: eats anything that can find from planktons and water invertebrates to fish eggs

River lamprey (*Lampetra fluviatilis*)

- Habitats: coastal waters, estuaries, and accessible rivers. The species is anadromous, i.e., spawns in freshwater and spends part of the life in the sea. Water pollution and obstacles (weirs and dams) impede the migration.
- Diets: as young: algae, detritus, and bacteria; as adults: other fish's bodily fluids and carrion

Brook lamprey (*Lampetra planeri*)

- Habitats: non-migratory species found in freshwater slow-running streams and lakes.
- Diets: bacteria, algae, and other type of detritus from water and mud

Sea lamprey (*Petromyzon marinus*)

- Habitats: warm estuaries and easily accessible rivers. The species is anadromous, i.e., spawns in freshwater and spends part of the life in the sea. Needs warm water with gravel and silt or sand for spawning and burrowing juvenile ammocoetes. Water pollution and obstacles (weirs and dams) impede the migration.
- Diets: young: micro-organisms; adults: suck blood of other fishes

Atlantic salmon (*Salmo salar*)

- Habitats: fast-flowing, shallow clear waters of rivers and streams. The species is anadromous, i.e., spawns in freshwater and spends part of the life in the sea. Water pollution and obstacles (weirs and dams) could impede the migration.
- Diets: young: water invertebrates; adults: smaller fishes

- Mammals:

  Lutra lutra; Otter

  - Habitats: shallow coastal areas for feeding, inland freshwater for bathing and terrestrial areas for resting and breeding. They could be found in sheltered wooded inlets, vegetated river banks, islands and reedbeds with a range or running and standing freshwater, to low-laying coasts.
  - Diets: fish, crustaceans, molluscs, amphibians, waterbirds, and small mammals.

Wye Valley Woodlands SAC

Area (ha):

- 916.24

Location:

- Fragmented site outside of the County boundary to the south within Gloucestershire, Herefordshire, and Monmouthshire.

Annex I habitats present that are a primary reason for selection of this site:

- Asperulo-Fagetum beech forests.

- Tilio-Acerion forests of slopes, screes, and ravines; Mixed woodland on base-rich soils associated with rocky slopes.
- Taxus baccata woods of the British Isles, Yew-dominated woodland.

Annex II species present as a qualifying feature, but not a primary reason for selection of this site:

- Rhinolophus hipposideros; Lesser horseshoe bat.

Key vulnerabilities and environmental conditions to support site Integrity

The woodlands of the lower Wye Valley form one of the most important areas for woodland conservation in Britain. Due to the excessive levels of browsing by deer on a range of woodland plants, the natural regeneration of many species is being affected adversely. In the past, woodland management managed the woodlands as coppice to support the local mining and quarrying industries.

However, a new management approach is being introduced to better reflect the requirements needed to sustain the SAC features. A variety of invasive species are present including Himilayan balsam, Perwinkle, Japanese knotweed and Cherry laurel. In some places regeneration from planted conifers is occurring.

To improve the functionality of the ecosystem and considering climate change, other areas of semi-natural woodland will be added to the SSSI series allowing linkages to be made between both sides of the Wye gorge and on the Dean plateau.

Natural England's Site Improvement Plan for the SAC identifies the main threats facing the site to be the increasing pressure of deer; poor woodland management; spread of invasive species; habitat fragmentation which risks

hindering the ecosystem; and the risk of atmospheric nitrogen deposition which exceeds site relevant critical loads.

Natural England conservation objectives

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

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

Non-qualifying habitats and species upon which the qualifying habitats and/or species depend

- Plants

  Asperulo-Fagetum beech forests – includes two types of association which are dependent on the slope inclination and soil type.

  Tilio-Acerion forests of slopes, screes and ravines – habitat characterised by nutrient rich soils that accumulates at basses of shady ravines, cliffs, coarse scree and steep rocky slopes. It could e found as scattered patches or as narrow strips along stream sides.

Taxus baccata woods of the British Isles, Yew-dominated woodland – this habitat is dependent on shallow and dry soils usually located on chalk or limestone slopes, though occasionally it could be found on mesotrophic soil.

- Mammals

  Lesser horseshoe bat (*Rhinolophus hipposideros*)

  - Habitat: sheltered valleys close to deciduous woodlands or dense scrub located close to roosts. Linear features such as hedgerows help connect fragmented habitats which helps bats connect roosts with foraging locations. They are also influenced by temperature which defines their foraging, breeding and hibernating locations. They prefer to hibernate in caves which should not be more than 5-10km apart.
  - Diet: terrestrial invertebrates such as spiders, moths, midges, and flies.

Wye Valley and Forest of Dean Bat Sites SAC

Area (ha):

- 142.70

Location:

- Outside of the County boundary to the southeast within Gloucestershire and Monmouthshire.

Annex II species present that are a primary reason for selection of this site:

- Rhinolophus hipposideros; Lesser horseshoe bat
- Rhinolophus ferrumequinum; Greater horseshoe bat

Key vulnerabilities and environmental conditions to support site integrity

This complex of sites on the border between England and Wales contains, at the time of listing, by far the greatest concentration of Lesser horseshoe bat in the UK, totalling about 26% of the national population. It features an exceptional breeding population. In addition, it supports a significant population of Greater horseshoe bat in the northern part of its range. The site contains the main maternity roost and hibernacula for this species in this area. Roosting bats have precise microclimate requirements and are sensitive to small changes in conditions such as temperature and humidity. The microclimate of roosts in buildings, bridges and caves can be adversely affected by structural deterioration, repair and renovation or other factors. As many of the maternity roost sites are in inhabited privately owned buildings, they are vulnerable to disturbance. It is important that there is appropriate advice, support and monitoring provided at roost sites. The bats are also vulnerable to disturbance whilst breeding; they have only single young every year, and so disturbing a maternity colony can have a significant adverse impact on the area's bat population. Most of the entrances to underground hibernacula and maternity roosts have grills to deter access. If these become damaged, unauthorised access by cavers and others can occur.

Natural England's Site Improvement Plan for the SAC identifies the main threats facing the site to be the structural deterioration of roosts sites that are in inhabited privately owned buildings vulnerable to disturbance, and pressure from public access.

Natural England conservation objectives

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

- The extent and distribution of the habitats of qualifying species.

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

Non-qualifying habitats and species upon which the qualifying habitats and/or species depend

- Mammals

  Lesser horseshoe bat (*Rhinolophus hipposideros*)

  - Habitat: sheltered valleys close to deciduous woodlands or dense scrub located close to roosts. Linear features such as hedgerows help connect fragmented habitats which helps bats connect roosts with foraging locations. They are also influenced by temperature which defines their foraging, breeding and hibernating locations. They prefer to hibernate in caves which should not be more than 5-10km apart.
  - Diet: terrestrial invertebrates such as spiders, moths, midges, and flies.

  Greater horseshoe bat (*Rhinolophus ferrumequinum*)

  - Habitat: during the season they roost in old large buildings, while during summer the prefer caves, abandoned mines and other undisturbed underground locations. These locations are usually less than 20-30km apart. For foraging they prefer pasture, mixed deciduous woodland, and hedgerows. They also require diverse airflow and temperature range.
  - Diet: terrestrial invertebrates such as beetles, moths, midges, and flies.

Severn Estuary SAC

Area (ha):

- 73714.11

Location:

- Outside of the County boundary to the southeast within Bristol City, Gloucestershire, Bath & North East Somerset, Somerset, South Gloucestershire and the Welsh counties of Vale of Glamorgan, Cardiff, Newport and Monmouthshire.

Annex I habitats present that are a primary reason for selection of this site:

- Estuaries.
- Mudflats and sandflats not covered by seawater at low tide; Intertidal mudflats and sandflats.
- Glauco-Puccinellietalia maritimae: Atlantic salt meadows.

Annex I habitats present as a qualifying feature, but not a primary reason for selection of this site:

- Sandbanks which are slightly covered by sea water all the time; Subtidal sandbanks..
- Reefs.

Annex II species present that are a primary reason for selection of this site:

- Petromyzon marinus: Sea Lamprey.
- Lampetra fluviatilis: River Lamprey.
- Alosa fallax: Twaite Shad.

Key vulnerabilities and environmental conditions to support site integrity

The estuary's classic funnel shape, unique in the UK, is a factor causing the Severn to have one of the highest tidal ranges in the world. A consequence of the large tidal range is an extensive intertidal zone, one of the largest in the UK. The tidal regime results in plant and animal communities typical of the extreme physical conditions of liquid mud and tide-swept sand and rock. The species-poor intertidal invertebrate community includes high densities of ragworms, lugworms and other invertebrates forming an important food source for passage and wintering waders and fish. The Severn River Basin Management Plan identifies that 17 % of the estuarine water bodies in the river basin district currently achieve good ecological status while the others are at moderate status.

Natural England’s Site Improvement Plan for the SAC identifies the main threats facing the site to be the increasing pressure of recreational activities; modification to water courses; increased number of developments within and adjacent to the Estuary; coastal squeeze causing loss of habitat; changes in land management; changes in species distributions caused by climate change and other man-made and natural modifications to on and offsite environments; loss of suitable habitats and food sources through water pollution; adverse impacts of aggregate extraction, maintenance and disposal of minerals and waste; the emergence of invasive species; increasing amounts of marine litter; and marine pollution incidents.

Natural England conservation objectives

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

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

Non-qualifying habitats and species upon which the qualifying habitats and/or species depend

- Plants

  Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) – this habitat is dependent on the protection from strong waves, though where it could still be influenced by tidal inundation with decreasing frequency and duration. Vegetation changes with climate, frequency and duration of tidal inundation, and land management.

  Estuaries – this habitat is subject to tide, gradient of salinity, sediment input, shelter from wave actions, low current flows, geomorphological and hydrographic factors. Based on those factors four different types of estuaries are categorised.

  Mudflats and sandflats not covered by seawater at low tide – this habitat type could be influenced by waves, tide, and soil structure. Vegetation

grooving in these areas are dependent on salinity and stability of water, and sediment texture and structure.

Sandbanks which are slightly covered by sea water all the time – this habitat is characterised by topography, physical, chemical and hydrographic factors, sandy sediments, shallow sea water and differences in depth, turbidity and salinity of surrounding water.

Reefs – this habitat is influenced by tide and wave action, as it could be subtidal or intertidal. Diverse communities of attached algae, aquatic invertebrates and fish are populating the area which presence depends on topography, turbidity, salinity, temperature and depth.

- Fish

Twaite shad (*Alosa fallax*)

- Habitats: habitat requirements are not fully understood.
- Diets: smaller fish, plankton, water invertebrates and sometimes even fish eggs.

River lamprey (*Lampetra fluviatilis*)

- Habitats: coastal waters, estuaries and accessible rivers. The species is anadromous, i.e. spawns in freshwater and spends part of the life in the sea. Water pollution and obstacles (weirs and dams) impede the migration.
- Diets: as young: algae, detritus and bacteria; as adults: other fish's bodily fluids and carrion.

Sea lamprey (*Petromyzon marinus*)

- Habitats: warm estuaries and easily accessible rivers. The species is anadromous, i.e. spawns in freshwater and spends part of the life in the sea. Needs warm water with gravel and silt or sand for spawning and burrowing juvenile ammocoetes. Water pollution and obstacles (weirs and dams) impede the migration.
- Diets: young: micro-organisms; adults: suck blood of other fishes.

Lyppard Grange Ponds SAC

Annex II species present that are a primary reason for selection of this site:

- *Triturus cristatus*: Great crested newt.

Key vulnerabilities and environmental conditions to support site integrity

Lyppard Grange Ponds are two field ponds located in the grounds of the former Lyppard Grange Farm. The terrestrial habitat within these grounds, previously formal garden, and orchard, has become neglected rough grassland with brambles and scrub, and retains many mature native and exotic trees. The area serves as public open space within recently constructed housing and other built development. These two ponds, along with the associated terrestrial habitats, support a large breeding colony of great crested newts, and are a remnant of a formerly more widespread newt habitat when large numbers of ponds were maintained for agricultural purposes.

Natural England's Site Improvement Plan for the SAC identifies the main threats facing the site to be the changes in great crested newt population.

Natural England conservation objectives

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

- The extent and distribution of the habitats of qualifying species.

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

Non-qualifying habitats and species upon which the qualifying habitats and/or species depend

- Amphibians

  Great crested newt (*Triturus cristatus*)

  - Habitat: for breeding and laying eggs they use water bodies such as ponds and ditches with ample aquatic vegetation during the spring time; during other times in the year they send in woodlands, farmland, grassland and scrub. Other less possible locations could be coastal structures, rural, urban and post-industrial.
  - Diet: various invertebrates.

Severn Estuary SPA

Area (ha):

- 24487.91

Location:

- Outside of the County boundary to the southeast within counties of Gloucestershire and Somerset in England, and Monmouthshire in Wales.

Qualifying features:

- *Anas strepera*: Gadwall
- Anser albifrons albifrons: Greater white-fronted goose
- Calidris alpina alpina: Dunlin
- Cygnus columbianus bewickii: Berwick's Swan
- Tadorna tadorna: Shelduck
- Tringa totanus: Redshank
- Waterbird assemblage

Key vulnerabilities and environmental conditions to support site integrity

The immense tidal range, second largest in world, affects both the physical environment and biological communities. The fish of the whole estuarine and river system is one of the most diverse in Britain, with over 110 species recorded. This site is important for the run of migratory fish between sea and river via estuary. It is also of particular importance for migratory birds during spring and autumn.

Natural England conservation objectives

Severn Estuary SPA site objectives need 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, by maintaining or restoring:

- The extent and distribution of qualifying natural habitats and habitats of qualifying species.

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

Species of interest are:

- Internationally important population of regularly occurring Annex 1. species Bewick's swan (*Cygnus columbianus bewickii*)
- Internationally important population of regularly occurring migratory species wintering European white-fronted goose *(Anser albifrons albifrons*)
- Internationally important population of regularly occurring migratory species wintering Dunlin (*Calidris alpina*)
- Internationally important population of regularly occurring migratory species wintering Redshank (*Tringa tetanus*)
- Internationally important population of regularly occurring migratory species wintering Shelduck (*Tadorna tadorna*)
- Internationally important population of regularly occurring migratory species wintering Gadwall (*Anas strepera*)
- Internationally important assemblage of waterfowl

Non-qualifying habitats and species upon which the qualifying habitats and/or species depend

- Birds

  Gadwall (*Anas strepera*)

- Habitat: in winter they could be found in gravel pits, lakes, reservoirs and coastal wetlands and estuaries, while during the breeding time they could be found in the shallow edges of lakes and gravel pits where there is vegetation.
- Diets: Stems, leaves and seeds.

Greater white-fronted goose (*Anser albifrons*)

- Habitat: they are present UK only during winter time (October – March) and could be found around freshwater, farmlands and wetlands.
- Diets: Grass, clover, winter wheat, potatoes, roots, shoots, tubers and leaves, as well as grains and oats.

Dunlin (*Calidris alpina*)

- Habitat: they could be found on heathland, moorland, freshwater, wetlands and coastal areas.
- Diets: Insects, snails and worms.

Berwick's Swan (*Cygnus columbianus bewickii*)

- Habitat: they could be found only during winter time (October – March) in areas of freshwater, farmland, coastal and wetlands.
- Diets: in UK they feed in fields on leftover potatoes and grain. On their breeding grounds in Siberia they eat aquatic plants and grass

Shelduck (*Tadorna tadorna*)

- Habitat: wetlands, freshwater, coastal areas and inland waters such as reservoirs and gravel workings.
- Diets: Invertebrates, small shellfish and aquatic snails.

Redshank (*Tringa totanus*)

- Habitat: while breeding they could be found in saltmarshes, flood meadows, wetlands, heathland, moorland and around lakes, tough during winter you'll see them on farmland, estuaries and coastal lagoons.

- Diets: insects, earthworms, molluscs and crustaceans by probing their bills into soil and mud.

Severn Estuary Ramsar Site

Area (ha):

- 24,701

Location:

- Outside of the County boundary to the southeast within counties of Gloucestershire and Somerset in England, and Monmouthshire in Wales.

Qualifying features:

- Estuaries
- Assemblage of migratory fish species (Sea lamprey, River lamprey, Twaite shad, Allis shad, Salmon, Sea trout, Eel)
- *Anas strepera*: Gadwall
- *Anser albifrons albifrons:* European white-fronted goose
- *Calidris alpina:* Dunlin
- *Cygnus columbianus bewickii:* Bewick's swan
- *Limosa limosa islandica*: Black-tailed godwit
- *Numenius phaeopus*: Eurasian whimbrel
- *Tadorna tadorna*: Shelduck
- *Tringa totanus*: Redshank
- Internationally important assemblages of waterfowl

Key vulnerabilities and environmental conditions to support site integrity

The immense tidal range, second largest in world, affects both the physical environment and biological communities. The fish of the whole estuarine and river system is one of the most diverse in Britain, with over 110 species recorded. This site is important for the run of migratory fish between sea and river via estuary. It is also of particular importance for migratory birds during spring and autumn.

Natural England's Site Improvement Plan for the Ramsar site identifies the main threats facing the site to be the increasing pressure of recreational activities; modification to water courses; increased number of developments within and adjacent to the Estuary; coastal squeeze causing loss of habitat; changes in land management; changes in species distributions caused by climate change and other man-made and natural modifications to on and offsite environments; loss of suitable habitats and food sources through water pollution; adverse impacts of aggregate extraction, maintenance and disposal of minerals and waste; the emergence of invasive species; increasing amounts of marine litter; and marine pollution incidents.

Natural England conservation objectives

Severn Estuary Ramsar site has similar objectives to Severn Estuary SPA. These include:

- Explanatory information for Estuaries.
- Explanatory information for Assemblage of migratory fish species.
- Internationally important population of regularly occurring Anex 1. species Bewick's swan (*Cygnus columbianus bewickii*).
- Internationally important population of regularly occurring migratory species wintering European white-fronted goose *(Anser albifrons albifrons*).

- Internationally important population of regularly occurring migratory species wintering Dunlin (*Calidris alpina*).
- Internationally important population of regularly occurring migratory species wintering Redshank (*Tringa tetanus*).
- Internationally important population of regularly occurring migratory species wintering Shelduck (*Tadorna tadorna*).
- Internationally important population of regularly occurring migratory species wintering Gadwall (*Anas strepera*).
- Internationally important assemblage of waterfowl.

Non-qualifying habitats and species upon which the qualifying habitats and/or species depend

- Plants

  Estuaries – this habitat is subject to tide, gradient of salinity, sediment input, shelter from wave actions, low current flows, geomorphological and hydrographic factors. Based on those factors four different types of estuaries are categorised.

- Fish

  Allis shad (*Alosa alosa*)

  - Habitats: grows in coastal waters and estuaries. Migrate up to 800km upstream into continental Europe to spawn where they are not keen on traversing obstacles such as dams and weirs.
  - Diets: smaller fish, plankton, water invertebrates and sometimes even fish eggs.

  Twaite shad (*Alosa fallax*)

  - Habitats: habitat requirements are not fully understood.
  - Diets: smaller fish, plankton, water invertebrates and sometimes even fish eggs.

River lamprey (*Lampetra fluviatilis*)

- Habitats: coastal waters, estuaries and accessible rivers. The species is anadromous, i.e. spawns in freshwater and spends part of the life in the sea. Water pollution and obstacles (weirs and dams) impede the migration.
- Diets: as young: algae, detritus, and bacteria; as adults: other fish's bodily fluids and carrion.

Sea lamprey (*Petromyzon marinus*)

- Habitats: warm estuaries and easily accessible rivers. The species is anadromous, i.e., spawns in freshwater and spends part of the life in the sea. Needs warm water with gravel and silt or sand for spawning and burrowing juvenile ammocoetes. Water pollution and obstacles (weirs and dams) impede the migration.
- Diets: young: micro-organisms; adults: suck blood of other fishes.

Atlantic salmon (*Salmo salar*)

- Habitats: fast-flowing, shallow clear waters of rivers and streams. The species is anadromous, i.e. spawns in freshwater and spends part of the life in the sea. Water pollution and obstacles (weirs and dams) could impede the migration.
- Diets: young: water invertebrates; adults: smaller fishes.

Sea trout (*Salmo trutta*)

- Habitat: freshwater rivers and coastal areas.
- Diet: young: on freshwater invertebrates; adults: smaller fish.

Eel (*Anguilla Anguilla*)

- Habitat: freshwater, coastal, wetlands, marine.
- Diet: eats anything in marine and freshwater, augmented by terrestrial invertebrates.

- Birds

Gadwall (*Anas strepera*)

- Habitat: in winter they could be found in gravel pits, lakes, reservoirs and coastal wetlands and estuaries, while during the breeding time they could be found in the shallow edges of lakes and gravel pits where there is vegetation.
- Diets: Stems, leaves, and seeds.

White-fronted goose (*Anser albifrons*)

- Habitat: they are present UK only during winter time (October – March) and could be found around freshwater, farmlands and wetlands.
- Diets: Grass, clover, winter wheat, potatoes, roots, shoots, tubers and leaves, as well as grains and oats.

Dunlin (*Calidris alpina*)

- Habitat: they could be found on heathland, moorland, freshwater, wetlands and coastal areas.
- Diets: Insects, snails and worms.

Berwick's Swan (*Cygnus columbianus bewickii*)

- Habitat: they could be found only during winter time (October – March) in areas of freshwater, farmland, coastal and wetlands.
- Diets: in UK they feed in fields on leftover potatoes and grain. On their breeding grounds in Siberia they eat aquatic plants and grass.

Black-tailed godwit (*Limosa limosa islandica*)

- Habitat: estuaries, coastal lagoons, wetlands, wet meadows, marshes and grassland.
- Diet: Insects, worms and snails, but also some plants, beetles, grasshoppers and other small insects during the breeding season.

Eurasian whimbrel (*Numenius phaeopus*)

- Habitat: grassland, heathland, moorland, freshwater, farmland, coastal and wetlands.
- Diet: On breeding grounds insects, snails and slugs; on passage, crabs, shrimps, molluscs, worms.

Shelduck (*Tadorna tadorna*)

- Habitat: wetlands, freshwater, coastal areas and inland waters such as reservoirs and gravel workings.
- Diets: Invertebrates, small shellfish and aquatic snails.

Redshank (*Tringa totanus*)

- Habitat: while breeding they could be found in saltmarshes, flood meadows, wetlands, heathland, moorland and around lakes, tough during winter you'll see them on farmland, estuaries and coastal lagoons.
- Diets: insects, earthworms, molluscs and crustaceans by probing their bills into soil and mud.

Walmore Common SPA

Area (ha):

- 53.41

Location:

- Outside of the County boundary to the southeast within Gloucestershire County.

Qualifying features:

- Cygnus columbianus bewickii: Bewick's Swan

Key vulnerabilities and environmental conditions to support site integrity

A low-lying area in the Severn Vale subject to annual winter flooding which creates suitable conditions for regular wintering by an important number of Bewick's Swan (*Cygnus columbianus bewickii*). The swans will only visit the site if it is under flood conditions. The operating protocol for the tilting weir installed in 2011 needs to have regards for creating flood conditions in the winter months when required. The site, which is in two sections, overlies the only significant area of peat in the County. It is one of three similar wetland sites of local botanical and ornithological importance.

Natural England conservation objectives

Walmore Common SPA site requires to ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring:

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

Non-qualifying habitats and species upon which the qualifying habitats and/or species depend

- Birds

  Berwick’s Swan (*Cygnus columbianus bewickii*)

- Habitat: they could be found only during winter time (October – March) in areas of freshwater, farmland, coastal and wetlands.
- Diets: in UK they feed in fields on leftover potatoes and grain. On their breeding grounds in Siberia they eat aquatic plants and grass.

Walmore Common Ramsar Site

Area (ha):

- 53. 41

Location:

- Outside of the County boundary to the southeast within Gloucestershire.

Qualifying features:

- Cygnus columbianus bewickii: Bewick's Swan.

Key vulnerabilities and environmental conditions to support site integrity

Natural England's Site Improvement Plan for the Ramsar site identifies the main threats facing the site to be the hydrological changes; declining numbers are due to broad scale re-distributions of Bewick's swans; changes in land management; unprotected and unavailable feeding and roosting areas; increased public access; and the increased development of energy production in the area.

Natural England conservation objectives

Considering that both Walmore Common SPA and Ramsar site are covering same area and have same qualifying features, one can conclude that the same conservation objectives were taken into actions. Those include actions to ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring:

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

Non-qualifying habitats and species upon which the qualifying habitats and/or species depend

- Birds

  Berwick's Swan (*Cygnus columbianus bewickii*)

  - Habitat: they could be found only during winter time (October – March) in areas of freshwater, farmland, coastal and wetlands.
  - Diets: in UK they feed in fields on leftover potatoes and grain. On their breeding grounds in Siberia they eat aquatic plants and grass.

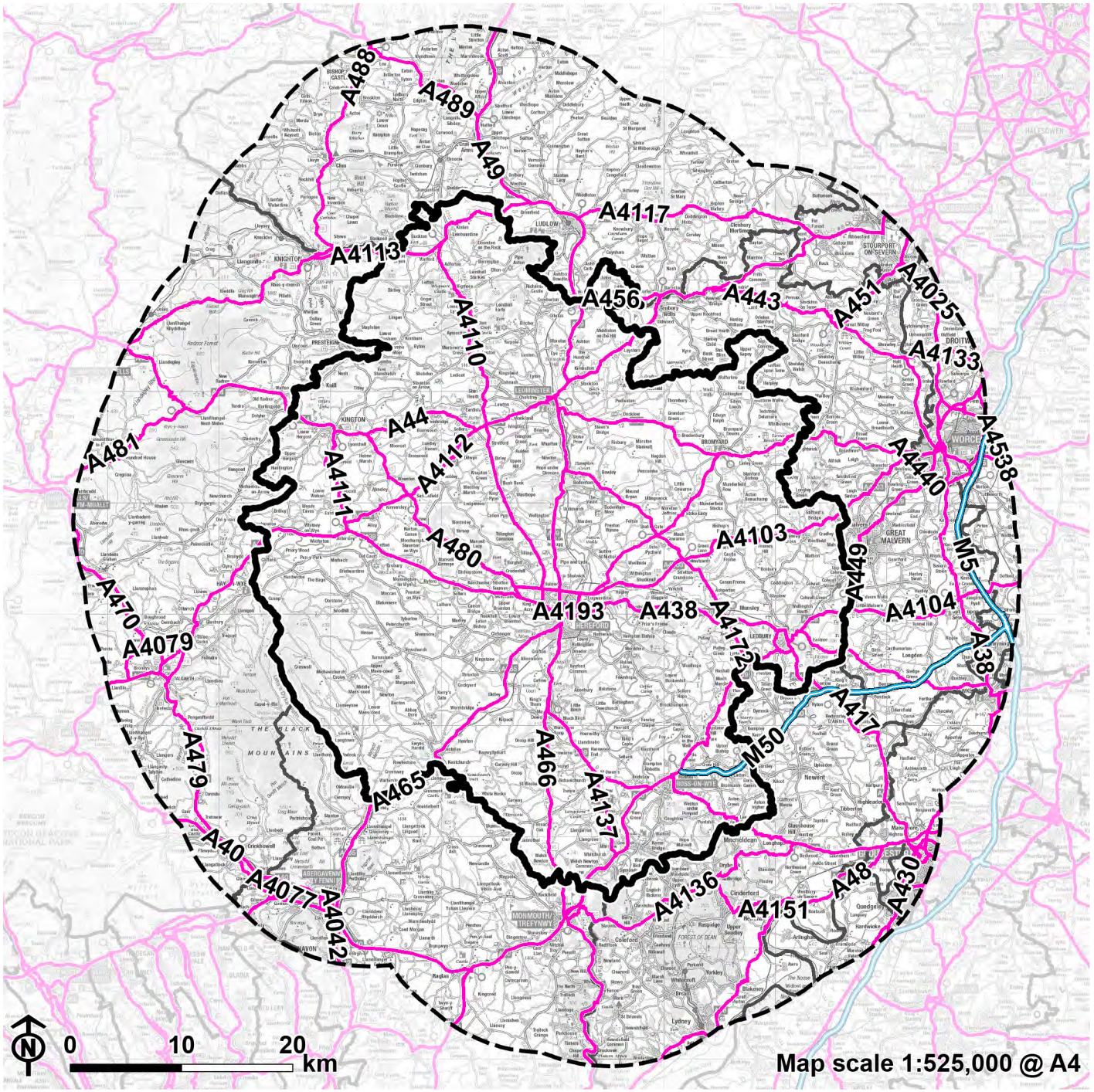
Appendix C

Key Strategic Roads within Herefordshire and Surrounding Area

SA and HRA of the
Herefordshire Local Plan
Herefordshire Council

LUC

Figure C1: Key Strategic Roads within and around Herefordshire



Source: OS

EB:bjerketvedt_l LUC
12288_FigC1_r1_StrategicRoads_A4L_Accessible
16/01/2023

References

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

2 The Conservation of Habitats and Species Regulations 2017 (2017) SI No. 2017/1012, as amended by The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (SI 2019/579), TSO (The Stationery Office), London.

3 The integrity of a site is the coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was designated. (Source: UK Government Planning Practice Guidance)

4 https://www.gov.uk/guidance/appropriate-assessment

5 Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora (the 'Habitats Directive')

6 Directive 2009/147/EC of 30 November 2009 on the conservation of wild birds (the 'Birds Directive')

7 The network of protected areas identified by the EU: https://ec.europa.eu/environment/nature/natura2000/index_en.htm

8 Defra and Natural England (2021) Guidance - Habitats regulations assessments: protecting a European site, https://www.gov.uk/guidance/habitats-regulations-assessments-protecting-a-european-site

9 NPPF (2021) para 181, available from https://www.gov.uk/guidance/national-planning-policy-framework

10 The HRA Handbook, Section A3. David Tyldesley & Associates, a subscription based online guidance document: https://www.dtapublications.co.uk/handbook/European

11 Defra and Natural England (2021) Guidance - Habitats regulations assessments: protecting a European site,

https://www.gov.uk/guidance/habitats-regulations-assessments-protecting-a-european-site

12 Regulation 5 of The Conservation of Habitats and Species Regulations 2017 (SI 2017/1012), as amended by The Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 (SI 2019/579)

13 UK Government Planning Practice Guidance, available from https://www.gov.uk/guidance/appropriate-assessment

14 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.

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

16 Conservation objectives are published by Natural England for SACs and SPAs: http://publications.naturalengland.org.uk/category/6490068894089216

17 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.

18 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: http://publications.naturalengland.org.uk/category/5458594975711232.

19 European Court of Justice in Case C-127/02 Landelijke Vereniging tot Behoud van de Waddenzee

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

21 The HRA Handbook. David Tyldesley & Associates, a subscription based online guidance document [online] Available at:

https://www.dtapublications.co.uk/Login.aspx?ReturnUrl=%2fhandbook%2fEuropean

22 Chanin, P. (2003). Monitoring the Otter Lutra lutra. Conserving Natura 2000 Rivers Monitoring Series No.10. English Nature, Peterborough.

23 Collins, J. (2016). Bat Surveys for Professional Ecologists: Good Practice Guidelines (3rd edn). The Bat Conservation Trust, London

24 Eric Palmer and Mike Smart, Link Ecology (2021). Identification of wintering and passage roosts on functionally linked land of the Severn Estuary - Gloucestershire and Worcestershire (Phase 5). Natural England Research Report NECR401

25 Air Pollution Information System website, available at: http://www.apis.ac.uk/

26 https://www.standardsforhighways.co.uk/dmrb/search/10191621-07df-44a3-892e-c1d5c7a28d90

27 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

28 Natural England (2020). Monitoring Engagement with the Natural Environment, MENE Visit data Year 1 to 10 filtered by residence local authority (County of Herefordshire) and distance travelled (q8), http://publications.naturalengland.org.uk/publication/4897139222380544

29 EPR (2016) Severn Estuary (Stroud District) Visitor Survey Report

30 Natural England (undated). Site Improvement Plans: East of England [online]. Available at: http://publications.naturalengland.org.uk/category/4873023563759616

31 Natural Resource Wales. Core Management Plans. Available: https://naturalresources.wales/media/672671/Llangorse%20lake%20core%20management%20plan.pdf

32 Joint Nature Conservation Committee (undated). UK Protected Areas [online]. Available at: http://jncc.defra.gov.uk/default.aspx?page=4

33 Natural England (undated). Conservation Objectives for European Sites [online]. Available at: http://publications.naturalengland.org.uk/category/6490068894089216

Report produced by LUC

Bristol
12th Floor, Beacon Tower, Colston Street, Bristol BS1 4XE
0117 929 1997
bristol@landuse.co.uk

Edinburgh
Atholl Exchange, 6 Canning Street, Edinburgh EH3 8EG
0131 202 1616
edinburgh@landuse.co.uk

Glasgow
37 Otago Street, Glasgow G12 8JJ
0141 334 9595
glasgow@landuse.co.uk

London
250 Waterloo Road, London SE1 8RD
020 7383 5784
london@landuse.co.uk

Manchester
6th Floor, 55 King Street, Manchester M2 4LQ
0161 537 5960
manchester@landuse.co.uk

landuse.co.uk

Landscape Design / Strategic Planning & Assessment
Development Planning / Urban Design & Masterplanning
Environmental Impact Assessment / Landscape Planning & Assessment
Landscape Management / Ecology / Historic Environment / GIS & Visualisation