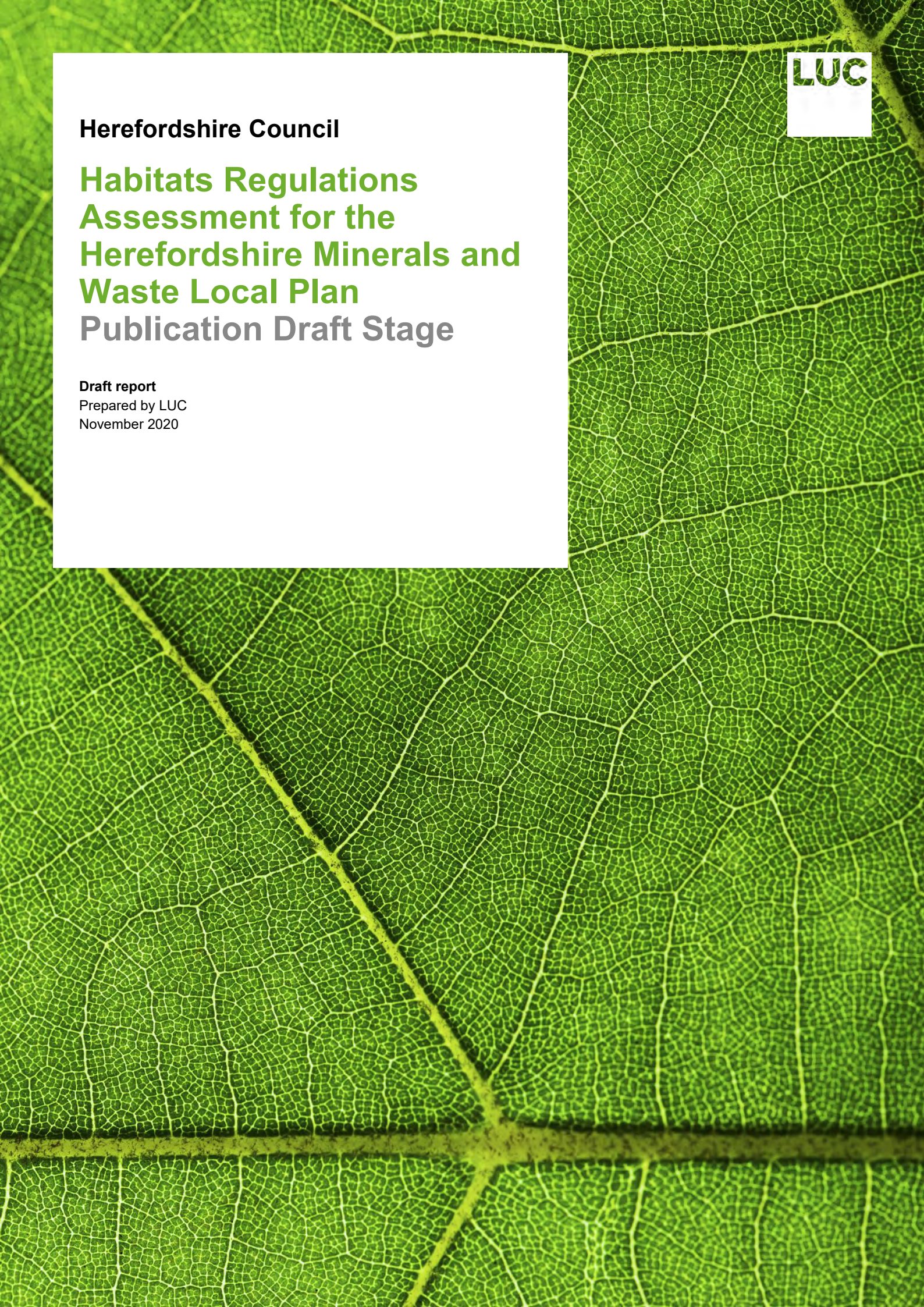

Herefordshire Council

Habitats Regulations Assessment for the Herefordshire Minerals and Waste Local Plan

Publication Draft Stage

Draft report
Prepared by LUC
November 2020

Herefordshire Council

Habitats Regulations Assessment for the Herefordshire Minerals and Waste Local Plan
Publication Draft Stage

Version	Status	Prepared	Checked	Approved	Date
1.	Draft HRA Screening Report	D. Green	D. Green T. Livingston	T. Livingston	07.09.2018
2.	Final HRA Screening Report	M. McGinley	T. Livingston	T. Livingston	16.11.2018
3.	Updates: Publication Draft (Appropriate Assessment)	M. Nash	D.Green and T.Livingston	T.Livingston	10.11.2020

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Chapter 1
Introduction

1.1 LUC was commissioned in 2018 by Herefordshire Council to carry out a Habitats Regulations Assessment (HRA) of the emerging Herefordshire Minerals and Waste Local Plan (MWLP).

1.2 This HRA Report relates to the Regulation 19 version of the Publication Draft MWLP (2020) and it should be read in conjunction with this document, together with the following key documents:

- 'Preparing the Publication Draft Plan Report' (September 2020); and,
- Herefordshire Local Plan - Core Strategy 2011-2031 (adopted October 2015).

Background

1.3 Herefordshire Council is currently preparing a new Minerals and Waste Local Plan ('Publication Draft' Regulation 19 stage). Once adopted, the MWLP will replace the saved minerals and waste policies contained in the Herefordshire Unitary Development Plan. The Publication Draft MWLP covers the period up to 31 December 2041 and applies across the administrative area of Herefordshire.

1.4 The Publication Draft MWLP has been produced taking into account the National Planning Policy for Waste, Planning Practice Guidance on Minerals and Waste, up-to-date evidence base studies (the minerals and waste need assessments were updated in 2019 and a Strategic Food Risk Assessment (SFRA) was prepared in January 2020) and ensuring close co-operation with neighbouring local authorities on cross-boundary issues.

1.5 It provides a clear vision, objectives and spatial strategy for minerals and waste up to 2041, consistent with that set out in the Herefordshire Local Plan Core Strategy 2011-2031 (adopted October 2015) ensuring that it provides sufficient opportunities to meet the identified needs of the area for waste management and a steady and adequate supply of all economically significant minerals in the Plan area. The Publication Draft MWLP also presents the core principles for minerals and waste development, location-specific policies in relation to where minerals and waste development should be developed, and development management style policies addressing specific issues that each development proposal should address.

The requirement to undertake HRA of development plans

1.6 The requirement to undertake HRA of development plans was confirmed by the amendments to the Habitats Regulations published for England and Wales in July 2007[1] and updated in 2010[2] and again in 2012[3] and 2017. These updates were consolidated into the Conservation of Habitats and Species Regulations 2017[4]. Therefore, when preparing the Publication Draft MWLP, Herefordshire Council is required by law to carry out a Habitats Regulations Assessment. Herefordshire Council can commission consultants to undertake HRA work on its behalf and this (the work documented in this report) is then reported to an considered by Herefordshire Council as the 'competent authority'. Herefordshire Council will consider work and may only progress the Local Plan if it considers that the Plan will not adversely affect the integrity[5] of any European site. The requirement for authorities to comply with the Habitats Regulations when preparing a Local Plan is also noted in the Government's online Planning Practice Guidance (PPG).

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

- SACs are designated under the Habitats Regulations as amended and target particular habitat types (specified in Annex 1 to the Habitats Directive) and species (specified in Annex II to the Habitats Directive). These annexes to the Habitats Directive list habitat types and species (excluding birds) 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 national site network.
- SPAs are areas classified[6] for rare and vulnerable birds or regularly occurring migratory species.
- Potential SPAs (pSPAs)[7], candidate SACs (cSACs)[8], Sites of Community Importance (SCIs)[9] and Ramsar sites should also be included in the HRA.
- Ramsar sites support internationally important wetland habitats and are listed under the Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar Convention, 1971).

1.8 For ease of reference during HRA, these designations are collectively referred to as 'European sites'[10], despite Ramsar sites being designated at the international level.

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

- SACs – Annex I habitat types and Annex II species[11];
- SPAs are areas classified[12] for rare and vulnerable birds or regularly occurring migratory species[13];

[1] The Conservation (Natural Habitats, &c.) (Amendment) Regulations 2007 (2007) SI No. 2007/1843.
[2] The Conservation (Natural Habitats, &c.) (Amendment) Regulations 2007. HMSO Statutory Instrument 2007 No. 1843. From 1 April 2010, these were consolidated and replaced by the Conservation of Habitats and Species Regulations 2010 (SI No. 2010/490). Note that no substantive changes to existing policies or procedures have been made in the new version.
[3] The Conservation of Habitats and Species (Amendment) Regulations 2012. Statutory Instrument 2012 No. 1927.
[4] The Conservation of Habitats and Species Regulations 2017. Statutory Instrument 2017 No. 1012.
[5] 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)
[6] Classified (a) before the day of the UK's exit from the EU (31 January 2020) in accordance with Article 4(1) or 4(2) of the European Union Wild Birds Directive for rare and vulnerable birds (as listed in Annex I of the Directive), and under Article 4(2) for regularly occurring migratory species not listed in Annex I, or (b) after exit day under the retained transposing regulations.
[7] Potential SPAs are sites that have been approved by the Minister for formal consultation but not yet proposed to the European Commission, as listed on the GOV.UK website.
[8] Candidate SACs are sites that have been submitted to the European Commission, but not yet formally adopted, as listed on the JNCC's SAC list.
[9] SCIs are sites that had been adopted by the European Commission before the day of the UK's exit from the EU (31 January 2020) but not yet formally designated as SACs by the UK Government.
[10] The term 'Natura 2000' sites can also be used interchangeably with 'European sites' in the context of HRA, although the latter term is used throughout this report.
[11] As listed in the site's citation on the JNCC website (all features of European importance, both primary and non-primary, need to be considered).
[12] Classified (a) before the day of the UK's exit from the EU (31 January 2020) in accordance with Article 4(1) or 4(2) of the European Union Wild Birds Directive for rare and vulnerable birds (as listed in Annex I of the Directive), and under Article 4(2) for regularly occurring migratory species not listed in Annex I, or (b) after exit day under the retained transposing regulations.
[13] As identified in sections 3.1, 3.2 and 4.2 of the SPA's standard data form on the JNCC website; at sites where there remain differences between species listed in the 2001 SPA Review and the extant site citation in the standard data form, the relevant country agency

- Ramsar sites – the reasons for listing the site under the Convention[14].

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

Stages of Habitats Regulations Assessment

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

1.12 The HRA should be undertaken by the 'competent authority', in this case Herefordshire Council, and LUC has been commissioned to do this on the Council's behalf. The HRA also requires close working with Natural England as the statutory nature conservation body[15] in order to obtain the necessary information, agree the process, outcomes and mitigation proposals. The Environment Agency, while not a statutory consultee for the HRA, is also in a strong position to provide advice and information throughout the process as it is required to undertake HRA for its existing licences and future licensing of activities.

Requirements of the Habitats Regulations

1.13 In assessing the effects of a Local Plan in accordance with Regulation 105 of the Conservation of Habitats and Species Regulations 2017[16], 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, as is the case for the Regulation 19 version of the MWLP, 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 1.1**.]*
- **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 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 1.1**.]*
- **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.
- **Step 5:** Under Reg. 107, if Step 4 is unable to rule out adverse effects on the integrity of a European site and no alternative solutions exist then the competent authority may nevertheless agree to the plan or project if it must be carried out for 'imperative reasons of overriding public interest' (IROPI).

Typical stages

1.14 **Table 1.1** summarises the stages and associated tasks and outcomes typically involved in carrying out a full HRA, based on various guidance documents[17], [18], [19].

Table 1.1: Stages of HRA

Stage	Task	Outcome
Stage 1: HRA Screening	Description of the development plan. Identification of potentially affected European sites and factors contributing to their integrity.	Where effects are unlikely, prepare a 'finding of no significant effect report'.

(Natural England or Natural Resources Wales) should be contacted for further guidance.

[14] As set out in section 14 of the relevant 'Information Sheet on Ramsar Wetlands' available on the JNCC website.

[15] Regulation 5 of the Habitats Regulations 2017.

[16] The Conservation of Habitats and Species Regulations 2017. Statutory Instrument 2017 No. 1012.

[17] 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.

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

[19] The HRA Handbook. David Tyldesley & Associates, a subscription based online guidance document: https://www.dtapublications.co.uk/handbooks

Stage	Task	Outcome
	Review of other plans and projects. Assessment of Likely Significant Effects of the development plan alone or in combination with other plans and projects.	Where effects judged likely, or lack of information to prove otherwise, proceed to Stage 2.
Stage 2: Appropriate Assessment (where Stage 1 does not rule out Likely Significant Effects)	Information gathering (development plan and European Sites). Impact prediction. Evaluation of development plan impacts in view of conservation objectives. Where impacts are considered to affect qualifying features, identify how these effects will be avoided or reduced.	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.	Identify 'imperative reasons of overriding public interest' (IROPI). Demonstrate no alternatives exist. Identify potential compensatory measures.	This stage should be avoided if at all possible. The test of IROPI and the requirements for compensation are extremely onerous.

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

HRA work carried out previously

1.16 LUC has previously conducted an HRA Screening Assessment of the Draft MWLP (November 2018). Furthermore, the adopted Herefordshire Local Plan Core Strategy was subject to HRA throughout its development. Both these HRA assessments have been drawn on to inform the HRA of the Publication Draft MWLP, as the European sites and their sensitivity to specific impacts are the same, but the Publication Draft MWLP includes detailed policies and site allocations that are not covered within the Core Strategy or its HRA, and the Screening Assessment has been updated to reflect more recent evidence as well as relevant case law.

Relevant Case Law Changes

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

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

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

1.19 In light of the above, the HRA screening stage for the Local Plan as not relied upon avoidance or mitigation measures to draw conclusions as to whether the Local Plan would result in Likely Significant Effects on European sites, with any such measures being considered at the Appropriate

Assessment stage as appropriate. This is discussed in more detail in **Section 3** below.

1.20 This HRA also takes into account the Holohan v An Bord Pleanala (9 Nov 2018) CJEU judgement which stated that:

"Article 6(3) of Council Directive 92/43/EEC of 21 May 1992 on the conservation of natural habitats and of wild fauna and flora must be interpreted as meaning that an 'appropriate assessment' must, on the one hand, catalogue the entirety of habitat types and species for which a site is protected, and, on the other, identify and examine both the implications of the proposed project for the species present on that site, and for which that site has not been listed, and the implications for habitat types and species to be found outside the boundaries of that site, provided that those implications are liable to affect the conservation objectives of the site.

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

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

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

1.22 In addition to this, the HRA takes into consideration the *'Wealden'* judgement and the *'Dutch Nitrogen Case*' judgements from the Court of Justice for the European Union.

1.23 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 Environmental Agency without considering the in-combination impacts with other plans and projects.

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

1.25 The 2018 'Coöperatie Mobilisation for the Environment and Vereniging Leefmilieu (Dutch Nitrogen)' judgement stated that "May the positive effects of the autonomous decrease in the nitrogen deposition … be taken into account in the appropriate assessment…, it is important that the autonomous decrease in the nitrogen deposition be monitored and, if it transpires that the decrease is less favourable than had been assumed in the appropriate assessment, that adjustments, if required, be made"

1.26 The judgement states that according to previous case law "…it is only when it is sufficiently certain that a measure will make an effective contribution to avoiding harm to the integrity of the site concerned, by guaranteeing beyond all reasonable doubt that the plan or project at issue will not adversely affect the integrity of that site, that such a measure may be taken into consideration in the 'appropriate assessment' within the meaning of Article 6(3) of the Habitats Directive".

1.27 The HRA of the Publication Draft MWLP will therefore only consider the existence of conservation and/or preventative measures if the expected benefits of those measures are certain at the time of the assessment. The HRA will also ensure that if a threshold approach is applied it will consider the risk of significant effects being produced even if below the threshold values to ensure that there is no adverse effect on integrity of the European sites.

Structure of this HRA Report

1.28 This chapter has introduced the requirement to undertake HRA of the Publication Draft MWLP. The remainder of the report is structured as follows:

- **Chapter 2: The Publication Draft Herefordshire Minerals and Waste Local Plan** summarises the content of the Publication Draft MWLP and the policies and site allocations that are the subject of this report.
- **Chapter 3: HRA Method** sets out the approach used and the specific tasks undertaken during the screening stage of the HRA.
- **Chapter 4: HRA Screening Assessment** describes the initial screening assumptions used to identify impact

pathways between the MWLP and European sites, and the reasoning and conclusions of the screening stage of the HRA.

- **Chapter 5: Appropriate Assessment** sets out the findings of the Appropriate Assessment stage of the HRA.
- **Chapter 5: Conclusions** summarises the HRA conclusions for the MWLP and describes the next steps to be undertaken.

Chapter 2
The Publication Draft Herefordshire Minerals and Waste Local Plan

Summary of the Publication Draft Herefordshire Minerals and Waste Local Plan

2.1 Herefordshire Council is currently preparing a new Minerals and Waste Local Plan (Regulation 19 stage) to cover the period up to 31 December 2041. The MWLP provides a clear vision, objectives and spatial strategy for minerals and waste up to 2041, consistent with that set out in the Herefordshire Local Plan Core Strategy 2011-2031 (adopted October 2015) ensuring that it provides sufficient opportunities to meet the identified needs of the area for waste management and a steady and adequate supply of all economically significant minerals in the Plan area.

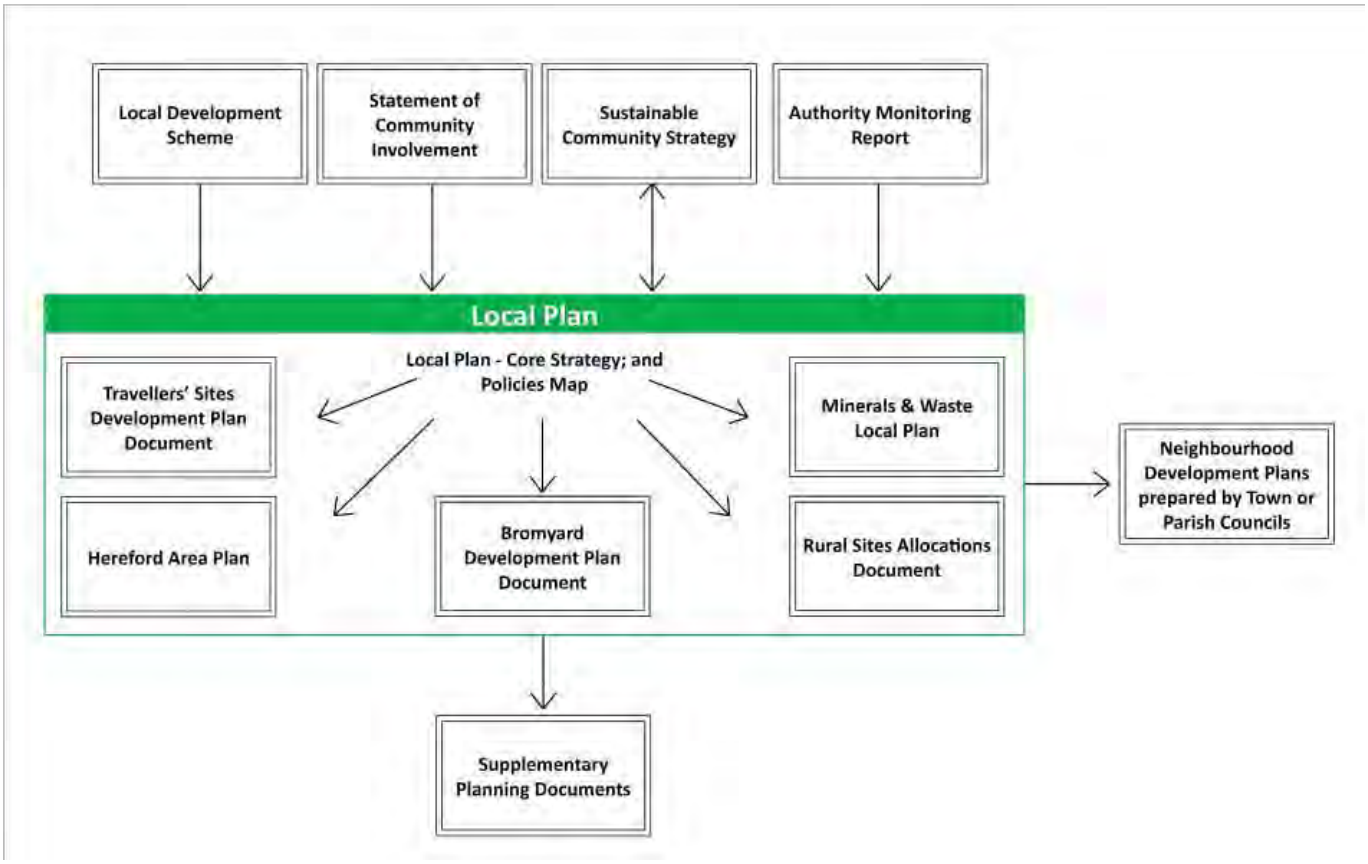
2.2 When adopted, the Minerals and Waste Local Plan will be another element of the Herefordshire Local Plan as shown in **Figure 2.1**.

2.3 Whilst any minerals or waste development proposal would be subject to scrutiny through the policies and commitments adopted through the Local Plan - Core Strategy, the Local Plan - Core Strategy does not specifically address specific issues relating to minerals and waste. The Publication Draft MWLP therefore provides the strategic direction and development management policies necessary to enable sustainable minerals and waste development.

2.4 Minerals and waste policy is currently contained in the Unitary Development Plan, adopted in 2007. Much of the Unitary Development Plan has been replaced by the Core Strategy, with just the minerals and waste policies being saved.

2.5 The MWLP establishes targets and planning policies relating to minerals and waste activities and associated development in Herefordshire to cover the plan period to 2041. Analysis undertaken in the evidence base documents has considered the period up to 2035, in order to enable the MWLP to remain relevant after the end date.

Figure 2.1: Structure of the Herefordshire Local Plan



2.6 The Publication Draft MWLP has been produced taking account of the National Planning Policy Framework, Planning Practice Guidance on Minerals and Waste, up-to-date evidence base studies and ensuring close co-operation with neighbouring local authorities on cross-boundary issues. Regard has also been given to other plans and strategies produced by Herefordshire Council (particularly the Core Strategy) and other organisations.

2.7 The main purpose of the MWLP is to provide guidance to developers, local communities and other interested parties on where and when minerals and waste development may be expected over the plan period, as well as how it will be managed to reduce adverse impacts and maximise benefits. Minerals development includes activities such as mining, quarrying and gas extraction. Waste development includes activities such as waste recycling and the treatment and disposal of waste.

2.8 The MWLP forms part of the statutory development plan and the Council will use it, along with the Core Strategy, as the starting point for decisions on planning applications for development relating to these activities. Where the MWLP contains relevant policies, decisions will be made in accordance with those policies unless there are other material considerations, related to planning, which indicate otherwise.

2.9 The policies and site allocations currently included in the Publication Draft MWLP, and which have been assessed as part of this HRA, are listed in **Table 2.1**.

Table 2.1: Publication Draft MWLP Policies and Proposed Site Allocations

Publication Draft MWLP Policy/Site Allocations		
Strategic Policies		
SP1: Resource Management		
SP2: Access to open space and recreation from minerals and waste development		
SP3: Transport within sites		
SP4: Site Reclamation		
Mineral-related Policies		
M1: Mineral Strategy		
M2: Safeguarding of Minerals Resources and Associated Infrastructure from Sterilisation or Significant Adverse Effect		
M3: The winning and working of sand and gravel		
M4: The winning and working of crushed rock (limestone)		
M5: The winning and working of building stone (sandstone)		
M6: Borrow Pits		
Waste-related Policies		
W1: Waste Strategy		
W2: Solid waste management requirements		
W3: Agricultural waste management		
W4: Wastewater management		
W5: Preferred locations for solid waste treatment facilities		
W6: Preferred locations for construction, demolition and excavation waste facilities		
W7: Waste management operational expectations		
Draft MWLP Site Allocations		
Mineral Sites	**Waste Sites**	**Strategic Employment Sites**
M03c Land adjacent Upper Lyde Quarry (east) (Sand and gravel)	W05 Leominster (HWS and HWRC)	W58 Rotherwas Industrial Estate (Strategic Employment Site)
M04 Shobdon Quarry (Sand and gravel)	W07 Ledbury (HWRC)	W59 Westfields Trading Estate (Strategic Employment Site)
M05 Wellington Quarry (Sand and gravel)	W10 Kington (HWRC)	W60 Three Elms Trading Estate (Strategic Employment Site)
M07a Leinthall Quarry (Crushed rock)	W13 Former Lugg Bridge Quarry (Physical Treatment)	W61 Holmer Road, Hereford (Strategic Employment Site)

Publication Draft MWLP Policy/Site Allocations		
M07b Land west of Leinthall Quarry (Crushed rock)	W19 City Spares MRS (Car Breaker)	W62 Leominster Enterprise Park (Strategic Employment Site)
M10a Perton Quarry (Crushed rock)	W43 Upper Lyde Quarry (M03)	W63 Southern Avenue, Leominster (Strategic Employment Site)
M10b Land north west of Perton Quarry (Crushed rock)	W44 Shobdon Quarry (M04) (Mineral site - inert waste disposal)	W64 Land between Little Marcle Road and Ross Road, Ledbury (Strategic Employment Site)
M12 Callow Delve (Building stone)	W45 Wellington Quarry (M05) (Mineral site - inert waste disposal)	W65 Model Farm, Ross-on-Wye (Strategic Employment Site)
M13 Black Hill Delve (Building stone)		W66 Moreton Business Park, Moreton-on- Lugg (Strategic Employment Site)
M16 Llandraw Delve (Building stone)		
M17 Pennsylvani Delves (Building stone)		
M18 Sunnybank Delve (Building stone)		
M20 Westonhill Wood Delve (Building stone)		
Area of Search A		
Area of Search B		
Area of Search C		
Area of Search D		

Previous HRA Work

2.10 An HRA Scoping Report was prepared by LUC on behalf of Herefordshire Council in August 2017 and related to the MWLP Issues and Options Report (April 2017). Building on this, an HRA Screening Report, which included a Screening Assessment of the Regulation 18 Draft MWLP was published in November 2018, the results of which were incorporated into the conclusions of the SA in relation to the wider effects of the MWLP on biodiversity.

2.11 To take account of evidence updates, consultation responses and previous SA and HRA work, Herefordshire Council has produced a detailed explanatory document outlining the approach and justification for changes in policy between the Regulation 18 Draft and the Regulation 19 Publication Draft. Section 3 of the 'Preparing the Publication Draft MWLP sets out the issue of phosphates in the River Wye SAC and potential impacts of the MWLP with regards to phosphates. Note that this is not intended to replace the HRA process, however it is a useful document in explaining the evidence base behind some the policies in the MWLP and has been used as an informative point of reference when considering the development of the MWLP.

2.12 This report builds on previous HRA work, including a revised Screening Assessment in light of key changes and newly available information and detailed Appropriate Assessment. Key changes include the removal of *M7: Unconventional Hydrocarbons,* due to the Government's moratorium on fracking (announced November 2019). Therefore, the effects identified in the 2018 HRA Screening Report in relation to this policy are no longer relevant and therefore reference to these have been removed within this version of the HRA. Other minor changes include minor revision of site allocation boundaries.

Chapter 3
Method

3.1 The HRA of the MWLP comprises two stages:

- Screening Assessment; and
- Appropriate Assessment.

3.2 The methods undertaken for each of these assessments are outlined below.

Screening Assessment

3.3 HRA screening of the Publication Draft MWLP has been undertaken in line with current available guidance and seeks to meet the requirements of the Habitats Regulations. The tasks that have been undertaken during the screening stage of the HRA are described in detail below. This section sets out policies and impact types for which Likely Significant Effects are predicted or cannot be ruled out prior to mitigation and avoidance measures.

3.4 The purpose of the screening stage is to:

- Identify all aspects of the plan which would have no effect on a European site, so that they can be eliminated from further consideration;
- Identify all aspect of the plan which would have no likely 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'; and
- 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 Plan

3.5 An initial investigation was undertaken to identify European sites within or adjacent to Herefordshire which may be affected by the Draft MWLP. This involved the use of GIS data to map the locations and boundaries of European sites using publicly available data from Natural England. All European sites lying partially or wholly within 15km of the Country boundary were included in order to address the fact

that Local Plan policies may affect European sites which are located outside the administrative boundary of the plan. This distance was deemed sufficient to ensure that all designated sites that could potentially be affected by development are identified and included in the assessment.

3.6 The location of European sites is shown in **Figure 3.1**, and detailed site information relating to their qualifying features, sensitivities and conservation objectives is provided in **Appendix A**. The following European sites are located wholly or partly within Herefordshire:

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

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

- Wye Valley and Forest of Dean Bat Sites SAC;
- Coed y Cerrig SAC;
- Sugar Loaf Mountains SAC;
- Rhos Goch SAC;
- River Usk SAC;
- Llangorse Lake SAC;
- Usk Bat Sites SAC;
- Cwm Clydach Woodlands SAC;
- Lyppard Grange Ponds SAC;
- Severn Estuary SPA;
- Severn Estuary Ramsar;
- Severn Estuary SAC; and
- Walmore Common SPA.

3.8 The designated features and conservation objectives of the European sites, together with current pressures on and potential threats, was established using Data Forms for SACs and SPAs[20] and Information Sheets for Ramsar Wetlands published on the JNCC website[21], as well as Natural England's Site Improvement Plans[22], Supplementary Advice Notes[23] and the most recent conservation objectives published on the Natural England website (most were published in 2014)[24]. This analysis enabled European site interest features to be identified, along with the features of each European site which determine site integrity and the specific sensitivities and threats facing the site. This information was then used, alongside expert professional judgement, to inform an assessment of how the potential impacts of the Local Plan may result in Likely Significant Effects on each of the European sites in question, either alone or in-combination.

Identification of Potential Impacts

3.9 **Table 3.1** sets out the range of potential impacts that minerals and waste development and related activities may have on European sites.

Table 3.1: Potential impacts of minerals and waste development on European sites

Broad categories and examples of potential impacts on European sites	Examples of activities responsible for impacts
Physical loss / damage	Soil removal/mineral extraction
■ Removal (including offsite effects, e.g. foraging habitat)	Infilling (e.g. of mines, water bodies)
■ Mine collapse	Alterations or works to disused quarries
■ Smothering	Tipping
■ Habitat degradation	Landfill
■ Direct mortality	Mineral extraction

[20] These were obtained from the Joint Nature Conservation Committee and Natural England websites (www.jncc.gov.uk and www.naturalengland.org.uk)
[21] www.jncc.defra.gov.uk
[22] Natural England is in the process of compiling Site Improvement Plans for all Natura 2000 sites in England as part of the Improvement programme for England's Natura 2000 sites (IPENS).
[23] Supplementary Advice Notes, Natural England, http://publications.naturalengland.org.uk/category/6490068894089216
[24] http://publications.naturalengland.org.uk/category/6490068894089216

Broad categories and examples of potential impacts on European sites	Examples of activities responsible for impacts
■ Sedimentation / silting ■ Prevention of natural processes ■ Habitat degradation ■ Erosion ■ Trampling ■ Fragmentation ■ Severance / barrier effect ■ Edge effects	
Non-physical disturbance ■ Noise ■ Vibration ■ Visual presence ■ Human presence ■ Light pollution	Mineral extraction Vehicular traffic Artificial lighting
Water quantity and quality ■ Drying ■ Flooding / stormwater ■ Water level and stability ■ Water flow (e.g. reduction in velocity of surface water ■ Barrier effect (on migratory species) ■ Run-off ■ Toxic contamination ■ Non-toxic contamination	Water abstraction Dredging Dewatering Extraction below the water table Increased discharge (e.g. drainage, runoff) from landfill, plant, vehicular traffic and leachate Oil / chemical spills Tipping Flood risk
Air Pollution ■ Nutrient enrichment ■ Habitat degradation ■ Toxic contamination	Emissions from vehicles Emission from waste treatment facilities Emissions from landfill
Non-toxic contamination ■ Nutrient enrichment (e.g. of soils and water) ■ Algal blooms ■ Changes in salinity ■ Changes in thermal regime ■ Changes in turbidity ■ Air pollution (dust)	Water abstraction Mineral extraction Increased discharge Dust emissions Attraction of vermin, gulls and corvids

Assessment of 'Likely Significant Effect'

3.10 As required under Regulation 105 of The Conservation of Habitats and Species Regulations 2017 (the 'Habitats Regulations'), an assessment has been undertaken of the 'Likely Significant Effects' of the Plan. The assessment has been prepared in order to identify which policies or site allocations would be likely to have a significant effect on European sites. The screening assessment has been conducted without taking mitigation into account, in accordance with the 'People over Wind' judgment.

3.11 The findings of the screening assessment are summarised in **Chapter 4** and the full matrix can be found in **Appendix B**, with other plans or projects that could give rise to in-combination effects summarised in **Appendix C**.

3.12 A risk-based approach involving the application of the precautionary principle is adopted in the assessment, such that a conclusion of 'no significant effect' will only been 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. The screening assessment identifies assumptions that have been applied to enable specific impacts on European sites to either be screened in or out.

Interpretation of 'Likely Significant Effect'

3.13 Relevant case law helps to interpret when effects should be considered as a Likely Significant Effect, when carrying out HRA of a land use plan.

3.14 In the Waddenzee case[25], 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:

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

3.16 An opinion delivered to the Court of Justice of the European Union[26] commented that:

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

3.17 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'.

Mitigation provided by the Publication Draft Herefordshire Minerals and Waste Local Plan

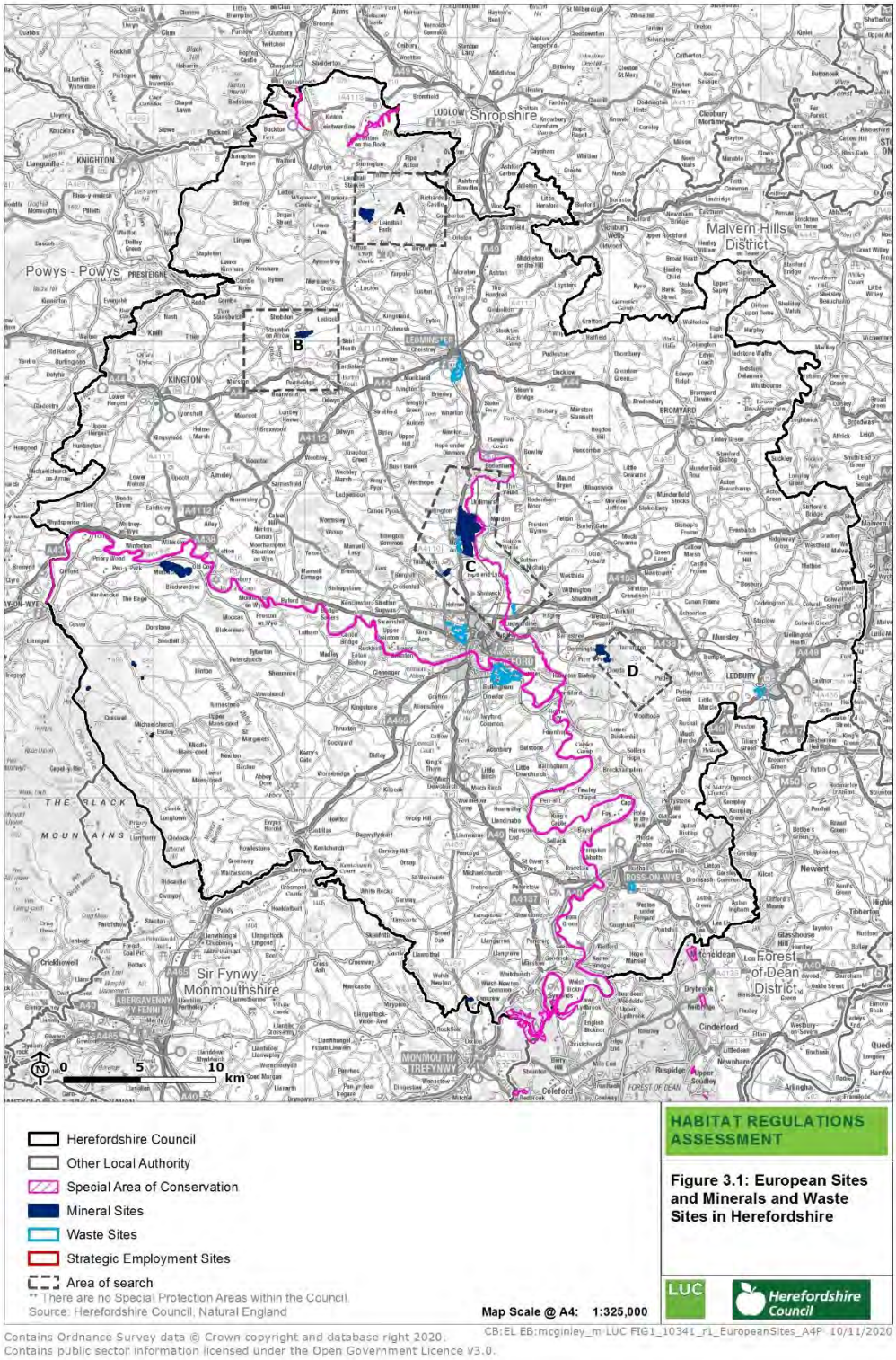
3.18 Some of the potential effects of the Publication Draft MWLP could be mitigated through the provisions of commitments and safeguards included within the Plan itself, such as those relating to protecting water resources.

3.19 Nevertheless, in accordance with the 'People over Wind' judgement, avoidance and mitigation measures cannot be relied upon at the Screening Stage, and therefore, where such measures exist, they will be considered at the Appropriate Assessment stage for impacts and policies where Likely Significant Effects, either alone or in-combination, cannot be ruled out.

[25] ECJ Case C-127/02 "Waddenzee" Jan 2004.

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

Figure 3.1: European Sites and Minerals and Waste Sites in Herefordshire



In-combination Effects

3.20 Regulation 102 of the Amended Habitats Regulations 2017 requires an Appropriate Assessment where *"a land use plan is likely to have a significant effect on a European site (either alone or in combination with other plans or projects) and is not directly connected with or necessary to the management of the site"*. The purpose of the in-combination effects assessment is to make sure that the effects of numerous small activities, which alone would not result in a significant effect, are assessed to determine whether their combined effect would be significant.

3.21 In accordance with recent guidance on HRA[27], the potential for in-combination effects need only be considered for the effects of a Local Plan identified as unlikely to have a significant effect alone, but which could combine with the effects of other plans and projects to produce a significant effect.

3.22 The first stage in identifying 'in-combination' effects involves identifying which other plans and projects in addition to the Herefordshire Publication Draft MWLP may affect the European sites that are the focus of this assessment.

3.23 There are a small number of potentially relevant plans and projects which could be considered. The review focused on plans within the authorities adjacent to Herefordshire, and those with potential functional links with European sites that could be affected by the Publication Draft MWLP, as these are the ones most likely to give rise to in-combination effects. **Appendix C** lists the plans that were considered, outlining the components of each that could have an impact on nearby European sites and considering the findings of the accompanying HRA work (where available).

3.24 The purpose of the review of other plans was to identify any components that could have an impact on the European sites that could also be affected by the Herefordshire Publication Draft MWLP, e.g. proposals for development near to the European sites which could have implications in terms of increased traffic, water use and pollution. The potential for the effects of these plans to combine with the effects of the Publication Draft MWLP has been considered in the screening assessment.

Appropriate Assessment

3.25 Following the screening stage, the plan-making authority is required under Regulation 102 of the Habitats Regulations 2017 (as amended) to make an 'Appropriate Assessment' of the implications of the plan for European sites, in view of their conservation objectives.

3.26 This stage seeks to determine whether implementation of the Publication Draft MWLP will result in an adverse effect on the integrity of the whole European site in question (many European sites are made up of a number of fragments of habitat). It also considers the potential for in-combination effects from development proposed in neighbouring authorities' Local Plans. Consideration was given to mitigation measures that are or may be included in the Publication Draft MWLP to reduce the likelihood and significance of effects on European sites.

3.27 A European 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 European site's conservation objectives is realised and where the European site is capable of self-repair and renewal with a minimum of external management support. Appropriate Assessment therefore needs to focus on those impacts judged likely to have an effect on the qualifying features of European sites, or where insufficient certainty regarding this remained at the screening stage.

3.28 The Appropriate Assessment focuses on those impacts that are judged likely to have a significant effect on the qualifying features of a European site, or where insufficient certainty regarding this remained at the screening stage. As described in **Chapter 1**, a conclusion needs to be reached as to whether or not a policy or site allocation in the Local Plan would adversely affect the integrity of a European site. To reach a conclusion, consideration was given to whether the predicted impacts of the proposals (either alone or in combination) have the potential to:

- Delay the achievement of conservation objectives for the site.
- Interrupt progress towards the achievement of conservation objectives for the site.
- Disrupt 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.

3.29 The conservation objectives for the above European sites are to ensure that the integrity of the site is maintained or restored as appropriate, and to ensure that the site contributes

[27] DTA: The Habitats Regulations Assessment Handbook: http://www.dtapublications.co.uk/handbook/browse

to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:

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

Chapter 4
Screening Assessment

Initial Screening Assumptions

4.1 The screening stage of the HRA has taken the approach of screening each policy or potential site allocation individually, which is consistent with current guidance. For many of the types of impacts, screening for Likely Significant Effects has been determined on a proximity basis, using GIS data to determine the proximity of potential development locations to the European sites that are the subject of the assessment. However, there are many uncertainties associated with using set distances as there are very few standards available as a guide to how far impacts will travel. Therefore, during the screening stage a number of initial assumptions have been applied in relation to assessing the impact pathways and potential for Likely Significant Effects on European sites that may result from the Publication Draft MWLP, as described below.

4.2 These assumptions take account of the nature of development likely to result from a Minerals and Waste Local Plan (as opposed to a Local Plan that proposes residential development, for example). The key types of impact which may occur as a result of the Publication Draft MWLP and which will be considered in this HRA include:

- Physical loss / damage (onsite and offsite);
- Non-physical disturbance (e.g. noise, vibration and light);
- Air pollution;
- Changes in water quality and quantity; and
- Non-toxic contamination (e.g. dust).

Physical loss / damage of habitat

4.3 Physical loss and damage of habitat can occur through direct impacts within a European site boundary, or through indirect impacts associated with the loss and damage of offsite habitat upon which the qualifying feature of a European site depends.

4.4 Direct loss and damage is considered likely to occur only when development is proposed within or immediately adjacent to a European site. The Publication Draft MWLP includes minerals and waste allocations located immediately adjacent to the River Wye SAC and therefore 'onsite' physical loss and damage is screened in in relation to the River Wye SAC. Other European sites are located sufficient distance from site

allocations to ensure that direct damage and loss of habitat 'onsite' can be screened out.

4.5 Loss of habitat from outside of the boundaries of a European site could still affect the integrity of that site if it occurs in an area used for offsite breeding, foraging or roosting by the qualifying species of the site. Therefore, consideration has been given to whether the European sites in and around Herefordshire have transient species amongst their qualifying features, which could be affected by habitat loss resulting from development outside of the European site boundary. Sites which do support transient species which could theoretically depend upon offsite habitat affected by the Publication Draft MWLP include the following:

- River Wye SAC (otter);
- Lyppard Grange Ponds SAC (great crested newt);
- Wye Valley and Forest of Dean Bat Sites SAC (greater horseshoe bat, lesser horseshoe bat);
- Usk Bat Sites SAC (lesser horseshoe bat);
- Walmore Common SPA (Bewick's swan); and,
- Severn Estuary SPA and Ramsar (wetland birds).

4.6 For other European sites, the potential for this type of impact to occur has been screened 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.

River Wye SAC

4.7 With regards to the River Wye SAC, otter home ranges can occupy extensive areas and linear distances, and therefore the population of otter for which the River Wye SAC is designated is likely to utilise, and depend upon, the availability and connectivity of suitable riparian and wetland habitat in the wider region. As a result, there is potential for offsite habitats which may be affected by the Publication Draft MWLP to be important for otter and **the potential for loss of offsite habitat to affect the River Wye SAC will require further consideration at the Screening stage**.

Lyppard Grange Ponds SAC

4.8 Lyppard Grange Ponds SAC is designated for great crested newt (GCN). Whilst GCN are 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. This site is located outside Herefordshire and is several kilometres from the closest site allocation. Therefore, impacts to Lyppard Grange Ponds SAC as result of physical loss and damage can be screened out.

Wye Valley and Forest of Dean Bat Sites SAC

4.9 Bat species for which the Wye Valley and Forest of Dean Bat Sites SAC, and Usk Bat Sites SAC are designated are dependent on the maintenance of an extensive network of high quality habitat including woodlands, tree lines, hedgerows and grasslands which extend beyond the boundaries of the SACs. Indeed, these bat species will rely on habitat extending for several kilometres from key roost sites. The Wye Valley and Forest of Dean Bat Sites SAC is located 2.6km from the closest minerals allocation (M12), and therefore **the potential for loss of offsite habitat to affect the Wye Valley and Forest of Dean Bat Sites SAC will require further consideration at the Screening Stage**.

Usk Bat Sites SAC

4.10 In contrast to the Wye Valley and Forest of Dean Bat Sites SAC, the Usk Bat Sites SAC is located over 20km from the closest site allocation, and therefore the potential for impacts to the Usk Bat Sites SAC as a result of physical loss and damage can be screened out.

Walmore Common SPA

4.11 Walmore Common SPA is designated for supporting overwintering Bewick's swan, a species which regularly depends upon offsite habitat such as pastures, arable crop and stubble fields for foraging. Nevertheless, the SPA is located over 20km from any site allocations and at such distances this species would not be expected to rely on site allocations specified within the Publication Draft MWLP. Therefore, the potential for impacts to the Walmore Common SPA as a result of physical loss and damage can be screened out.

Severn Estuary SPA

4.12 The Severn Estuary SPA is designated for supporting a range of wetland bird species. Whilst many of these species will regularly utilise and depend upon offsite foraging habitat, the extent to which such species are reliant upon such habitat typically declines with increasing distance. Given that this SPA and Ramsar is located over 15km from the closest minerals or waste site allocation, the potential for Likely Significant Effects has been screened out.

4.13 In summary, the potential for the Publication Draft MWLP to result in Likely Significant Effects on a European site as a result of physical loss and damage is restricted to the River Wye SAC and Wye Valley and Forest of Dean Bat Sites SAC.

Non-physical disturbance (noise, vibration and light pollution)

4.14 Noise and vibration effects, e.g. during mineral extraction, waste treatment, and/or transportation of materials to and from site, is most likely to disturb sensitive species and are thus a key consideration with respect to sites located in close proximity and where qualifying features include birds or mammals, although such effects may also impact upon some fish species. Artificial lighting at night (e.g. from additional street lamps, flood lighting and security lights) is most likely to affect bat populations or nocturnal birds, and therefore have an adverse effect on the integrity of European sites where bats and nocturnal birds are a qualifying feature.

4.15 The effects of noise, vibration and light are most likely to be significant if minerals and waste development takes place within 500m of a European site with qualifying features sensitive to these disturbances, or mapped off-site breeding, foraging or roosting areas. This is the distance that, in our experience, provides a robust assessment of effects in plan-level HRA and meets with the agreement of Natural England.

4.16 European sites within 500m of proposed site allocations specified in the Publication Draft MWLP are limited to the River Wye SAC. Impacts to other European sites as result of non-physical disturbance can be screened out on the basis of their distance from site allocations.

River Wye SAC

4.17 The River Wye SAC is located immediately adjacent to minerals and waste site allocations and its qualifying features include otter and fish species which are likely to be susceptible to noise, vibration and light pollution. **In summary, the potential for the Publication Draft MWLP to result in Likely Significant Effects on the River Wye SAC due to non-physical disturbance requires further assessment at the Screening Stage.**

Air pollution

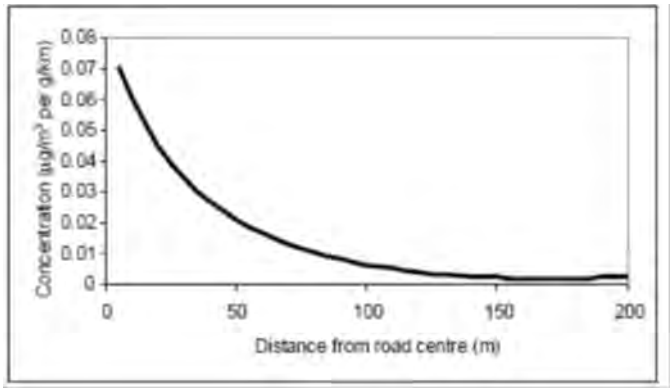
4.18 Air pollution is most likely to affect European sites where plant, soil and water habitats are the qualifying features, but some qualifying animal species may also be affected, either directly or indirectly (by any deterioration in habitat as a result of air pollution). Deposition of pollutants to the ground and vegetation can alter the characteristics of the soil, affecting the pH and nitrogen availability that can then affect plant health, productivity and species composition.

4.19 In terms of vehicle traffic arising from transportation of minerals, 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.

4.20 Based on the Highways Agency Design Manual for Road and Bridges (DMRB) Volume 11, Section 3, Part 1[28] (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.

4.21 According to the Department of Transport's Transport Analysis Guidance, "*beyond 200m, the contribution of vehicle emissions from the roadside to local pollution levels is not significant".* **Figure 4.1** sets out the traffic contribution to pollutant concentration at different distances from the road centre, and shows that the pollutant concentration drops significantly in the first 50m from the road centre.

Figure 4.1: Traffic Contribution to Pollutant Concentration at Different Distances from the Road Centre[29]



4.22 There is no County wide model that provides traffic forecasts for all roads in the County at the end of the Local Plan-Core Strategy period versus the current baseline flows and taking into account the housing provision planned. The Department for Transport website provides traffic count data for local authorities on a quarterly and annual basis[30], however, the majority of counts are on major roads (A roads and motorways), and only a sample of points on the minor road network is counted each year.

[28] *Design Manual for Road and Bridges*. Highways Agency. http://dft.gov.uk/ha/standards/dmrb/index.htm

[29] Figure C1 from Design Manual for Roads and Bridges (May 2007) Volume 11 Environmental Assessment, Section 3 Environmental Assessment Techniques. Part 1 HA207/7 Air Quality

[30] http://www.dft.gov.uk/traffic-counts/index.php

4.23 In the absence of detailed traffic forecasts for the whole county, it was assumed that only those roads forming part of the primary road network (motorways and 'A' roads) would be likely to experience any significant increases in vehicle traffic as a result of the Publication Draft MWLP. As such, where a site is within 200m of only minor roads, no significant effect from traffic-related air pollution was considered to be the likely outcome.

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

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

4.25 Defra defines Heavy Duty Vehicles (HDVs) as road vehicles greater than 3.5 tonnes gross weight and Heavy Goods Vehicles (HGVs) as road vehicles greater than 7.5 tonnes gross weight[31]. Minerals extraction sites and waste facilities could generate HDV traffic that includes both HGVs and smaller types of HDVs. Therefore, the second criterion from the DMRB (listed above) will be relevant to this HRA of the Publication Draft MWLP.

4.26 It should be noted that case law, known as the Wealden judgement[32], has revised the method by which Natural England expects to see in-combination air pollution effects assessed[33]. The implication of the judgement is that, where the road traffic effects of other plans or projects are known or can be reasonably estimated (including those of adopted plans or consented projects), then these should be included in road traffic modelling by the local authority whose local plan or project is being assessed. The DMRB screening criteria should then be applied to the traffic flows of the plans in combination. The judgement focussed on the 1,000 AADT daily traffic flow data rather than 200 AADT HDV flows, but it is assumed that the same principle would apply.

4.27 An assessment has been undertaken to identify which European sites lie within 200m of either motorways or A roads[34]. The following European sites are within 200m of either 'A' roads or motorways:

- River Clun SAC (A4113);
- River Wye SAC (A438, A49, A40, A4103, A417,); and,
- Wye Valley Woodlands SAC (A40, A466).

4.28 Other European sites have been screened out on account of their distance from either a motorway or an A road.

4.29 In summary, the potential for Likely Significant Effects associated with increased air pollution from vehicle traffic will only require further consideration in relation to the River Clun SAC, River Wye SAC and the Wye Valley Woodlands SAC.

Changes in water quantity and quality

4.30 Minerals extraction and water requirements for waste treatment facilities can affect water flows and quality through processes used such as dredging, dewatering and excavation below the water table, or through leaching and run-off of chemicals and nutrients. Impacts on water quantity and quality are most likely to affect European sites that are hydrologically connected to the mineral sites, either via surface or groundwater pathways. Consideration has been given to the likelihood of hydrological connectivity between the mineral sites and the European sites within 10km of the county boundary.

4.31 The following European sites have hydrological connectivity between allocated mineral sites (including within 10 km of the county boundary):

- River Wye SAC;
- Severn Estuary SPA, SAC and Ramsar Site; and
- River Clun SAC.

4.32 None of the other European sites have hydrological connectivity with locations specified in the Publication Draft MWLP and have therefore been screened out.

[31] https://uk-air.defra.gov.uk/assets/documents/reports/aqeg/nd-glossaryapp.pdf
[32] 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.
[33] Natural England (June 2018) Natural England's approach to advising competent authorities on the assessment of road traffic emissions under the Habitats Regulations
[34] Note that the strategic road network includes all motorways and major trunk A-roads in England that are managed by the Highways Agency. All other A roads are managed locally by the Highways Authority.

River Wye SAC

4.33 Above-ground connectivity has been identified where the River Wye SAC is adjacent to allocated minerals and waste sites located upstream of Hereford (Allocations M05 and W45) in the west of the county close to allocation M20, and in the south of the county close to allocation M12, and there is potential for effects at these locations to include run-off of surface water, pollutants and chemical spills, and changes in the below-ground water connectivity.

Severn Estuary SPA, SAC and Ramsar Site

4.34 The Severn Estuary SPA, SAC and Ramsar site is located downstream of the River Wye SAC, and therefore shares theoretical connectivity with minerals and waste allocations located in the Publication Draft MWLP. Nevertheless, the Severn Estuary is located over 35km downstream from the Herefordshire County boundary, and considerably further from allocated minerals and waste sites. At such distances, any impact arising at the source would be highly unlikely to reach the site. The Severn Estuary has therefore been screened out from further consideration in relation to water quantity and quality.

River Clun SAC

4.35 The River Clun SAC is sensitive to hydrological changes and is located 90m to the northwest of the A4113. As a result, there is potential for run-off from road traffic associated with the Publication Draft MWLP. It has therefore been screened in for further assessment in the HRA Screening.

4.36 In summary, changes in water quantity and quality have been screened in for the River Wye SAC and River Clun SAC, but have been screened out for other European sites on account of a lack of hydrological connectivity or the significant distances between them and site allocations specified in the Publication Draft MWLP.

Non-toxic contamination

4.37 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.

4.38 The effects of non-toxic contamination are most likely to be significant if minerals and waste 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 our experience, provides a robust assessment of effects in plan-level HRA and meets with the agreement of Natural England.

4.39 European sites within 500m of proposed site allocations specified in the Publication Draft MWLP are limited to the River Wye SAC. Other European sites have been screened out on the basis of their distance from site allocations.

River Wye SAC

4.40 The River Wye SAC is located immediately adjacent to minerals and waste site allocations and its qualifying features includes river habitat and vegetation and fish species, which are likely to be susceptible to the effects of non-toxic contamination.

4.41 In summary, the potential for the Publication Draft MWLP to result in Likely Significant Effects on the River Wye SAC due to non-physical disturbance requires assessment at the HRA Screening Stage.

Summary of Initial Screening Assumptions

4.42 **Table 4.1** summarises the screening assumptions that are being applied to the HRA of the Publication Draft MWLP. Where certain types of the broad impacts have been identified as having no pathway and no effect on a European site, they are screened out in **Table 4.1**. Therefore, no further consideration is required, and these are not referenced in the screening matrix in **Appendix B.**

Table 4.1: Summary of Initial Screening Assumptions

European Site	Physical damage / loss of habitat	Non-physical disturbance	Air pollution	Water quantity and quality	Non-toxic contamination
River Wye SAC	**Screened in**	**Screened in**	**Screened in**	**Screened in**	**Screened in**
River Clun SAC	Screened out	Screened out	**Screened in**	**Screened in**	Screened out
Downton Gorge SAC	Screened out	Screened out	Screened out	Screened out	Screened out
Wye Valley Woodlands SAC	Screened out	Screened out	**Screened in**	Screened out	Screened out
Wye Valley and Forest of Dean Bat Sites SAC	**Screened in** (offsite only)	Screened out	Screened out	Screened out	Screened out
Coed y Cerrig SAC	Screened out	Screened out	Screened out	Screened out	Screened out
Sugar Loaf Mountains SAC	Screened out	Screened out	Screened out	Screened out	Screened out
Rhos Goch SAC	Screened out	Screened out	Screened out	Screened out	Screened out
River Usk SAC	Screened out	Screened out	Screened out	Screened out	Screened out
Llangorse Lake SAC	Screened out	Screened out	Screened out	Screened out	Screened out
Usk Bat Sites SAC	Screened out	Screened out	Screened out	Screened out	Screened out
Cwm Clydach Woodlands SAC	Screened out	Screened out	Screened out	Screened out	Screened out
Lynpard Grange Ponds SAC	Screened out	Screened out	Screened out	Screened out	Screened out
Severn Estuary SPA	Screened out	Screened out	Screened out	Screened out	Screened out
Severn Estuary Ramsar	Screened out	Screened out	Screened out	Screened out	Screened out
Severn Estuary SAC	Screened out	Screened out	Screened out	Screened out	Screened out
Walmore Common SPA	Screened out	Screened out	Screened out	Screened out	Screened out

4.43 In light of the screening assumptions detailed above, the following European sites required further assessment at the HRA Screening Stage, to determine whether the Publication Draft MWLP will result in 'Likely Significant Effects' either alone, or in-combination with other plans and projects:

- River Wye SAC (Physical damage/ loss of habitat, non-physical disturbance, air pollution, water quantity and quality, non-toxic contamination);
- River Clun SAC (air pollution, water quantity and quality);
- Wye Valley Woodlands SAC (air pollution); and,
- Wye Valley and Forest of Dean Bat Sites SAC (physical damage/loss of offsite habitat).

4.44 Following application of the screening assumptions described in above, the approach to HRA Screening initially involved an assessment of each policy and site allocation, followed by a detailed assessment of each potential impact

identified. The full screening matrix, which sets out the decision-making process used for this assessment can be found in **Appendix B** and the findings are described below.

HRA Screening of Policies and Site Allocations

No 'Likely Significant Effect' Predicted

4.45 The following policies and proposed site allocations are unlikely to have significant effects on any of the European sites. This is because they either would not result in development (because they set out criteria relating to development proposed), or they seek to protect the natural environment).

4.46 The policies that are not considered to have Likely Significant Effects on any European site are:

- SP1: Resource Management;
- SP2: Access to open space and recreation from minerals and waste development;
- SP3: Transport within sites;
- SP4: Site Reclamation;
- M1: Mineral Strategy;
- M2: Safeguarding of mineral resources from sterilisation;
- M4: The winning and working of crushed rock (limestone);
- M6: Borrow Pits;
- W1: Waste Strategy;
- W2: Solid waste management requirements; and,
- W7: Waste management operational expectations;

4.47 For the proposed site allocations listed below, significant effects are unlikely given the distance from the site allocation to European 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. The site allocations that are unlikely to have significant effects on any European site are:

- M03a Upper Lyde Quarry;
- M03c Land adjacent Upper Lyde Quarry (east) and Land north east of Upper Lyde Quarry;
- M04 Shobdon Quarry;
- M07a Leinthall Quarry;
- M07b Land west of Leinthall Quarry;
- M10a Perton Quarry;
- M10b Land north west of Perton Quarry;
- M13 Black Hill Delve;
- M16 Llandraw Delve;
- M17 Pennsylvani Delve;
- M18 Sunnybank Delve ;
- Area of Search A;
- Area of Search B;
- Area of Search D;
- W05 Leominster;
- W07 Ledbury;
- W10 Kington ;
- W19 City Spares MRS;
- W43 Upper Lyde Quarry (M03);
- W44 Shobdon Quarry (M04);
- W45 Wellington Quarry (M05);
- W58 Rotherwas Industrial Estate;
- W59 Westfields Trading Estate;
- W60 Three Elms Trading Estate;
- W61 Holmer Road, Hereford;
- W62 Leominster Enterprise Park;
- W64 Land between Little Marcle Road and Ross Road, Ledbury;
- W65 Model Farm, Ross-on-Wye; and,

Likely Significant Effects predicted or uncertain

4.48 Whilst no policies or proposed site allocations are certain to result in a Likely Significant Effect, for some there is uncertainty and therefore, in line with the precautionary approach being applied in the HRA, until significant effects can be ruled out, for example following detailed consideration of each potential impact type, as detailed below, they are treated as giving rise to 'Likely Significant Effects'.

4.49 The screening assessment identified a lack of certainty as to whether the following policies would result in Likely Significant Effects on European sites:

- M3: The winning and working of sand and gravel;
- M5: The winning and working of building stone (sandstone);
- W3: Agricultural waste management;
- W4: Waste water management;

- W5: Preferred locations for solid waste treatment facilities;
- W6: Preferred locations for construction, demolition and excavation waste facilities.

4.50 The screening assessment identified a lack of certainty as to whether the following proposed site allocations would result in Likely Significant Effects on European sites:

- M05 Wellington Quarry;
- M12 Callow Delve;
- W13 Former Lugg Bridge Quarry;
- M20 Westonhill Wood Delve;
- W63 Southern Avenue, Leominster;
- W66 Moreton Business Park, Moreton-on- Lugg.
- Area of Search C; and
- W45 Wellington Quarry (M05).

HRA Screening Assessment

River Wye SAC

Physical loss of or damage to habitat

4.51 A review of each of the minerals and waste site allocations using GIS mapping and aerial imagery indicates that the majority are located a sufficient distance from the River Wye SAC to ensure that physical loss or damage to the SAC 'onsite' will be avoided. In addition, they lack habitat types which may provide opportunities for transitory species associated with the River Wye SAC (e.g. otter). As a result, the majority of site allocations and Areas of Search A, B and D (see **Figure 3.1**) have been ruled out.

4.52 The exception to the above finding includes minerals site allocation M05 and waste site allocation W45 which are located immediately adjacent to the River Lugg component of the River Wye SAC. These sites occupy much of the same wider site, and whilst they currently and historically support active minerals workings they also currently support a series of flooded gravel pits surrounded by dense scrub and fields intersected by ditches. As a result, there is a high potential for these sites to provide suitable habitat for otter. The seclusion of such habitats may increase the suitability of such habitat to be utilised for otter breeding purposes.

4.53 Given adjacency of minerals site allocation M05 and waste site allocation W45 to the River Lugg component of the River Wye SAC, and in the absence of appropriate avoidance and mitigation measures, there is a risk of encroachment into the River Wye SAC, causing direct loss of potentially suitable terrestrial habitat for otter or potential disturbance of resting or spawning sites for qualifying fish species. The risk of this is low, however in the absence

4.54 Given the proximity of these sites to the SAC, and the presence of potentially functionally linked habitat which may be used by otter, sand and gravel extraction, and inert waste disposal at these sites may result in Likely Significant Effects both as a result of direct (onsite) and indirect (offsite) physical loss and damage.

4.55 This conclusion also applies to Area of Search C which encompasses the above sites, and provides the search area for future minerals operations in proximity to the River Wye SAC, and strategic policies M3 and W6 which specifically allocate minerals and waste operations at the Wellington Quarry site.

In summary, there is potential for the site allocations and search areas listed below to result in Likely Significant Effects on the River Wye SAC as a result of physical loss or damage. These will therefore require further consideration at the Appropriate Assessment stage to determine whether, in light of potential avoidance and mitigation measures, they will result in adverse effects on the integrity of the River Wye SAC, either alone or in-combination with other plans and projects.

- Mineral policy M3: The winning and working of sand and gravel;
- Waste policy W6: Preferred locations for construction, demolition and excavation waste facilities;
- Minerals site allocation M05 Wellington Quarry;
- Waste site allocation W45 Wellington Quarry; and
- Area of Search C.

Non-physical disturbance (noise, vibration and light pollution)

4.56 As described the initial screening assumptions, noise and vibration effects, e.g. during mineral extraction, waste operations and/or transportation of minerals to and from the site, are most likely to disturb sensitive species and are thus a key consideration with respect to sites located in close proximity and where qualifying features include birds or mammals, although such effects may also impact upon some fish species. Artificial lighting at night (e.g. from additional flood lighting and security lighting) may also be considered to affect otter movements and distribution, and therefore it is recognised that lighting impacts on the River Wye SAC may

have an adverse effect on both otter and qualifying fish species. i

4.57 A review of the site allocations considered the proximity of the River Wye SAC, and the presence of any intervening habitat (e.g. woodlands) which would act as an avoidance buffer for such effects. This review identified that the potential for non-physical disturbance is limited to the Wellington Quarry waste and minerals sites (M05 and W45) as this site is located adjacent to the River Wye SAC, and specifically is limited to sites M05 and W45 due to their proximity to the SAC. This review was extended to consider offsite functionally linked habitat which occurs within the site allocations and concluded that these sites have the potential to result in lighting, noise and vibration which could disturb otter which may be utilising adjacent habitats, or offsite functionally linked habitat which occurs within the site allocations. This conclusion also applies to Area of Search C which encompasses the above sites, and provides the search area for future minerals operations in proximity to the River Wye SAC, and policies M3 and W6 which specifically focus minerals and waste operations to the Wellington Quarry sites.

In conclusion, the following policies and site allocations have the potential to result in Likely Significant Effects on the River Wye SAC as a result of non-physical disturbance and will require assessment at the Appropriate Assessment stage to determine whether, in light of mitigation measures, they would result in adverse effects on integrity of the River Wye SAC either alone or in-combination:

- Mineral policy M3: The winning and working of sand and gravel;
- Waste policy W6: Preferred locations for construction, demolition and excavation waste facilities;
- Minerals site allocation M05 Wellington Quarry;
- Waste site allocation W45 Wellington Quarry; and
- Area of Search C.

Air pollution

4.58 Natural England's advice on assessing road traffic emissions recommends that consideration is initially given to the extent to which the qualifying features of the European site in question will be exposed to emissions resulting from the plan.

4.59 Natural England's Site Improvement Plan identifies air pollution, and specifically the effect of atmospheric nitrogen deposition as a threat to the River Wye SAC. It specifies that it is the transition mire component of the SAC which is vulnerable to the effects of air pollution. This component habitat of the SAC is limited to areas within Wales, located several kilometres outside of the Herefordshire County boundary at locations unlikely to be affected by changes in traffic as a result of the Publication Draft MWLP, and therefore the potential for air pollution as a result of the contribution of vehicle movement associated with the Publication Draft MWLP is unlikely.

4.60 The majority of the SAC is located further than 200m from a main road, thereby further reducing the potential for likely significant effect as a result of air pollution. A review of the proximity of the primary road network identified the following key locations where main roads occur within 200m of the River Wye SAC:

- A38 at Bridge Sollers and Hackmoor Hall;
- A438 at Whitney-on-Wye, Hay-on-Wye, Glasbury and Lugwardine;
- A4103 at Lugg Bridge;
- A49 at Burghope and within central Hereford; and,
- A417 at Bowley and Hampton Court Bridge.

4.61 Each of these locations is typically characterised by a road intersecting the River Wye SAC via a bridge, or running adjacent to the meander of the river which increases its proximity to the road at a given location. Therefore, the parts of the SAC where primary roads are within 200m of the SAC are focused to discrete locations. Each of these locations is characterised by the fluvial river component of the SAC, and the locations are generally separated from the river by broadleaved woodlands which are likely to act as a buffer to the effects of emissions. The river component of the SAC, together with the qualifying species likely to occur at these locations (otter and fish), are less susceptible to the effect of emissions likely to be associated with the limited HDV movement arising from the Publication Draft MWLP because the effects of air pollution at these locations would need to degrade habitats to such an extent for habitat changes or effects on water quality to occur. Crucially, none of the above locations support the transition mire habitat which is identified as being sensitive to the effects of air pollution.

4.62 In terms of in-combination effects, the changes in HDV traffic associated with the Publication Draft MWLP would not be expected to affect locations or components of the SAC considered vulnerable to this type of effect (i.e. the transition mire habitats within Wales), and therefore there is no pathway by which in-combination effects could occur.

4.63 In addition to vehicle traffic, air pollution may also be caused by particular types of development such as waste management facilities (where they incorporate thermal treatment) or agricultural activities. Some types of waste

facilities release gaseous emissions from waste management technologies involving anaerobic digestion or producing energy from waste. However, a review of the MWLP policies indicates that no specific locations for such activities are specified. It is therefore not possible to fully assess the likelihood of this effect occurring at this stage due to a lack of information about the precise location, type and scale of development, which will not be known until the planning application stage. As a result, there will need to be a reliance on the standard safeguards required to obtain an Environmental Permit as regulated by the Environment Agency.

4.64 The reliance on such safeguards cannot be relied upon at the screening stage and therefore the potential for air pollution associated with potential anaerobic digestion or energy from waste facilities will require further consideration at the Appropriate Assessment stage.

In summary, there is uncertainty as to whether the Publication Draft MWLP will result in Likely Significant Effects on the River Wye SAC as a result of air pollution from potential anaerobic digestion or energy from waste facilities, either alone or in-combination with other plans and projects.

Water quality

4.65 As specified in the initial screening assumptions, there is potential for the Publication Draft MWLP to result in impacts to the River Wye SAC through changes in water quality. In particular, this relates to the discharge and run off of contaminated water, and leaching of chemicals, pollutants and nutrients. Impacts on water quality are most likely to affect European sites that are hydrologically connected to the site allocations, either via surface or groundwater pathways. Water quality in the River Wye SAC is an important issue as it is not currently meeting its conservation objectives to maintain favourable status due mainly to exceedance of phosphate targets.

4.66 A review of each policy, and mineral and waste site allocation was completed to identify those sites with direct hydrological connectivity with the River Wye SAC, and which, given the type of activity proposed at the site, are of increased likelihood to result in harmful effects to the SAC in the absence of mitigation and avoidance measures.

4.67 The majority of policies do not direct development or specify locations and will therefore not result in Likely Significant Effects. The majority of mineral and waste site allocations do not share direct hydrological connectivity with the River Wye SAC and are located a sufficient distance to ensure that the likelihood of operations resulting in Likely Significant Effects on the SAC as a result of degraded water quality is negligible. Policies and site allocations with the potential to affect the River wye SAC as a result of changes in water quality are discussed below.

4.68 Mineral site allocation M05 and waste site allocation W45 are both located at Wellington Quarry, adjacent to the River Wye SAC and share direct hydrological connectivity with the River Wye SAC, either through sharing boundaries, or via field drains. These allocations relate to the extraction of gravel and sand, and the treatment of inert minerals waste which is non-reactive both chemically and biologically. However, it is recognised that there is potential for phosphate released at both the start and end of mineral working through the movement of soils, as detailed with the Preparing the Publication Draft MWLP document. As a result, the potential for activities at these sites to result in changes in water quality which would be considered significant is low and is likely confined to the start and end of mineral working. Furthermore, in the absence of appropriate safeguards and mitigation measures, the potential for operations at these sites to harm the qualifying features of the SAC, for example through plant washing, chemical spills and pollution events, and surface water run-off, cannot be excluded.

4.69 In January 2020, a Level 2 Herefordshire Minerals and Waste Strategic Flood Risk Assessment (SFRA) of the Publication Draft MWLP found site allocations W05, W13, W45, W63 and W66 have the potential to discharge into the River Lugg catchment in the event of flood. In this scenario it is recognised there is a potential pathway for contamination between these sites and the River Lugg catchment of the River Wye SAC. However, the report concluded that all sites pass the Sequential and Exception Tests and are appropriate for the proposed developments as set out in the Publication Draft MWLP. The SFRA recommends detailed mitigation measures which will require considerations at the Appropriate Assessment stage.

4.70 Policies M3 and W6 identify preferred locations for sand and gravel workings and construction, demolition and excavation waste management facilities respectively and specify Wellington Quarry as a preferred location. As a result, the potential for these policies to result in Likely Significant Effects on the River Wye SAC cannot be excluded for the reasons provided above.

4.71 Area of Search C is also specified as a search area for future sand and gravel extraction. The potential for Likely Significant Effects associated with potential activities will depend upon the location and nature of the proposals, which at this stage is not possible to conclude. For the reasons provided above, locations which share hydrological connectivity may result in significant effects on the SAC.

4.72 The western edge of the minerals site allocation M12 Callow Delve is situated immediately adjacent to Mally Brook which discharges into the River Wye SAC approximately 3.7km downstream. As a result, run-off of chemicals, sediment or contaminants has the potential to result in Likely Significant Effects on the SAC. In keeping with the site allocations described above, it is likely that this could be avoided with relative ease through a commitment to, and implementation of, appropriate mitigation safeguards including best practice working methods.

4.73 Minerals site allocation M20 Westonhill Wood Delve is located 300m upslope from the River Wye SAC and the western edge of the site is situated immediately adjacent to a brook at Merbach which flows directly into the River Wye SAC. As a result, run-off of chemicals, nutrients, pollutants, sediment or contaminated water has the potential to result in Likely Significant Effects on the SAC. Policy M5 also identifies these two site allocation as permitted mineral extraction sites that can be extended temporally (M12), laterally and/or deepened (M20) and therefore this policy also has the potential to result in significant effects through the pathways detailed above. It is likely that such effects could be avoided with relative ease through a commitment to, and implementation of, appropriate mitigation safeguards.

4.74 Waste policies W3 and W4 are also identified as having Likely Significant Effects because policy W3 could result in development of anaerobic digestion facilities within agricultural holdings/units, which could result in phosphate inputs to the River Wye SAC, and policy W4 relates to new waste water development, specifying that planning permission will be granted to the statutory water and sewerage undertaker to extend, upgrade, or make provision for new infrastructure necessary to ensure the statutory undertaker can continue to undertake its duty to supply potable water and treat foul flows. Increased wastewater discharges from new or extended facilities have the potential to increase phosphate levels in the River Wye SAC.

In summary, the potential Likely Significant Effects identified above could be mitigated through the provision and commitment to safeguards and best practice working. However, the effect of mitigation will be considered at the Appropriate Assessment stage. Therefore the potential for the following policies and site allocations to result in adverse effects on the integrity of the River Wye SAC either alone, or in-combination with other plans and projects, as a result of changes in water quality, will require consideration at the Appropriate Assessment stage.

- Mineral policy M3: The winning and working of sand and gravel;
- Mineral policy M5: Preferred locations for solid waste treatment facilities;
- Waste policy W3: Agricultural waste management
- Waste policy W4: Wastewater management
- Waste policy W6: Preferred locations for construction, demolition and excavation waste facilities;
- Minerals site allocation M05 Wellington Quarry;
- Minerals site allocation M12 Callow Delve;
- Minerals site allocation M20 Westonhill Wood Delve; and
- Waste site allocation W45 Wellington Quarry.

Water quantity

4.75 European sites can be sensitive to changes in water quantity where they are designated for their water habitats, but also other habitats dependent on consistent water levels (e.g. bogs, mires, woodlands etc.). As specified in the initial screening assumptions the potential for the Publication Draft MWLP to result in Likely Significant Effects is restricted to the River Wye SAC due to the locations of site allocations, distance, and a lack of hydrological connectivity with other European sites.

4.76 Mineral site allocation M05 and waste site allocation W45 are both located at Wellington Quarry, adjacent to the River Wye SAC and share direct hydrological connectivity with the River Wye SAC, either through sharing boundaries, or via field drains. These allocations relate to the extraction of gravel and sand, and the treatment of inert minerals waste. There is potential for dredging, dewatering and excavation below the water table in relation to the sand and gravel extraction proposed through site allocation M05 and for water usage that could impact on the water table in relation to the W45 inert waste allocation.

4.77 The water supply in Herefordshire comes mainly from Dwr Cymru Welsh Water (DCWW). DCWW's latest Water Resources Management Plan (WRMP) which covers the period 2020-2050 was published in 2019[35]. Herefordshire is covered by the Hereford, Ross-on-Wye and Whitbourne water resource zones (WRZs), which are all predicted to have a surplus water supply over the period 2020 to 2050. However,

[35] *Dŵr Cymru Welsh Water Final Water Resources Management Plan.* Dŵr Cymru Welsh Water, March 2019.

the Vowchurch WRZ adjacent to the Hereford WRZ has a vulnerability to severe droughts, and already relies on small imports of water from the Hereford WRZ. The WRMP plans to improve the resilience of this zone through increasing the capacity of the existing link between the Vowchurch and Herefordshire zones, which will involve laying a new c. 12km pipeline between Broomy Hill water treatment works and Kingstone service reservoir together with an upgrade to Broomy Hill water pumping station. The HRA for the WRMP[36] considered the potential impacts of this resilience solution on the River Wye SAC, and identified uncertain likely significant effects due to the pipeline needing to cross the River Wye, and the potential for effects during construction on mobile species associated with the River Wye SAC due to the proximity of the works. Sufficient mitigation was provided through the inclusion of commitments to avoid construction during the key periods when mobile species from these sites may be vulnerable, to avoid adverse effects on the River Wye SAC. Furthermore, the effects identified through the HRA of the WRMP did not include any relating to changes in water quantity within the River Wye SAC.

In summary, and in light of the above, no Likely Significant Effects on the River Wye SAC as a result of changes in water quantity are expected in relation to the Publication Draft MWLP.

Non-toxic contamination

4.78 As set out in the initial screening assumptions, mineral extraction, waste operations and/or transportation of minerals and waste to and from the site may create dust and sediment which can be harmful to qualifying features of European Sites through non-toxic contamination. For example, this could include smothering of habitats which can limit natural processes such as photosynthesis or affect the turbidity and temperature of water. **Chapter 3** identified that the potential for non-toxic contamination as a result of the Publication Draft MWLP, which relates primarily to dust creation, is restricted to sites in proximity (<500m) of the River Wye SAC.

4.79 A review of the site allocations considered the proximity of sites to the River Wye SAC and the presence of any intervening habitat (e.g. woodlands) which would act as an avoidance buffer for such effects. This review identified that the potential for non-toxic contamination is limited to the Wellington Quarry waste and minerals site (M05 and W45) because this site is located adjacent to the River Wye SAC.

4.80 These sites and the operations proposed there (minerals extraction and transport, and treatment of inert waste) have the potential to result in dust creation which could smother riparian vegetation, and change the physical conditions of aquatic habitat of the adjacent River Wye SAC. This could potentially damage or prevent the natural processes required by qualifying features including fish species and aquatic plants, and thereby result in Likely Significant Effects.

4.81 This conclusion also applies to Area of Search C which encompasses the above sites, and provides the search area for future minerals operations in proximity to the River Wye SAC, and policies M3 and W6 which specifically focus minerals and waste operations to the Wellington Quarry sites.

4.82 It is likely that such potential effects could be avoided and mitigated with relative ease through a commitment to best practice working measures and maintaining appropriate buffers between operations and the River Wye SAC. The effectiveness of such mitigation measures will require consideration at the appropriate assessment stage to determine its ability to prevent adverse effects on integrity.

In conclusion, the following policies and site allocations have the potential to result in Likely Significant Effects on the River Wye SAC as a result on non-toxic contamination and will require assessment at the appropriate assessment stage to determine whether, in light of mitigation measures, they would result in adverse effects on integrity of the River Wye SAC either alone or in-combination.

- Mineral Policy M3: The winning and working of sand and gravel;
- Waste Policy W6: Preferred locations for construction, demolition and excavation waste facilities;
- Minerals site allocation M05 Wellington Quarry;
- Area of Search C; and,
- Waste site allocation W45 Wellington Quarry.

River Clun SAC

Air pollution

4.83 The River Clun SAC is located 130m upstream (northwest) of the A4113 at Leintwardine Bridge. The road at this location is likely to provide a primary movement route for site allocation M07 only which is already an active site and

[36] *Dŵr Cymru Welsh Water Final Water Resources Management Plan 2019 Habitats Regulations Assessment*. Wood Environment & Infrastructure Solutions UK Ltd, March 2019.

therefore unlikely to result in any significant uplift increase in HDV movements along the A4113. Furthermore, given the direction of flow any localised nutrient deposition would be likely to be carried away from the SAC. As a result, traffic emissions associated with the Publication Draft MWLP at this location would not be expected to result in likely significant effects through air pollution.

In summary, and in light of the above, no Likely Significant Effects on the River Clun SAC as a result of air pollution are expected in relation to the Publication Draft MWLP.

Water quality

4.84 The River Clun SAC is not hydrologically connected to the River Wye SAC. Therefore, changes in the water quality of the River Wye SAC, for example through nutrient enrichment, would not affect the distribution and abundance of salmonids populations, including salmon and brown trout, upon which the fresh water pearl mussel depends.

4.85 As a result, the potential for the MWLP to result in Likely Significant Effects on the River Clun SAC can be screened out.

In conclusion, the Publication Draft MWLP will not result in Likely Significant Effects on the River Clun SAC as a result of water quality, either alone, or in-combination.

Wye Valley Woodlands SAC

Air pollution

4.86 The woodland habitats for which the Wye Valley Woodlands SAC is designated are particularly sensitive to the effects of air pollution. Deposition of pollutants to the ground and vegetation can alter the characteristics of the soil, affecting the pH and nitrogen availability that can then affect plant health, productivity and species composition.

4.87 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.

4.88 As identified in **Chapter 3**, increases in Heavy Duty Vehicle flows of 200 AADT or more have the potential to result, either alone or in-combination, in Likely Significant Effects as a result of increases in air pollution. Minerals extraction sites and waste facilities could generate HDV traffic that includes both HGVs and smaller types of HDVs.

4.89 Critical loads for nitrogen have been established for certain habitats dependent on low nitrogen levels, and are expressed in deposition units of kg N/ha/yr, and are reported in DMRB guidance and on the Air Pollution Information System (APIS)[37] database. Data from APIS has been used to identify those European sites in and around Herefordshire where levels of particular pollutants are already exceeding critical loads, indicating that any increases could have adverse impacts.

4.90 The Wye Valley Woodlands SAC lies within 200m of an 'A' road at the following locations:

- A40 between Monmouth and Ross-on-Wye
- A466 between Monmouth and Hereford

4.91 According to the APIS website, the Wye Valley Woodlands SAC contains qualifying habitats that are sensitive to deposition of nitrogen and are currently exceeding critical loads, including broadleaved and coniferous woodland. However, road transport emissions only contribute around 12.6% of the overall nitrogen deposition for the Wye Valley Woodlands SAC.

4.92 This site could experience air pollution effects due to an increase in vehicle traffic resulting from increases in HDV movements to and from minerals and waste sites specified in the Publication Draft MWLP. However, a review of the locations and distribution of minerals and waste sites allocated in Herefordshire indicates that the majority of site allocations are located over 30km away from the Wye Valley Woodlands SAC. Sites M12 and W65 are located 2.5km and 8.5km from the SAC respectively. Waste site W65 is an existing strategic employment site, and therefore any proposals would not be expected to generate HDV movements that exceed the existing type of use, whilst site M12 is also an existing quarry which will be granted a time extension to continue the existing activities. As a result, the continued working of these sites would not be expected to result in any notable increases in vehicle movements. Given the distance of other allocations from the Wye Valley Woodlands SAC component sites the potential contribution of traffic increases associated with those allocations to roads running in proximity to the Wye Valley Woodlands SAC is likely to be negligible.

In summary, and in light of the above, no Likely Significant Effects as a result of air pollution on the

[37] www.apis.ac.uk

Wye Valley Woodlands SAC are expected in relation to the Publication Draft MWLP.

Wye Valley and Forest of Dean Bat Sites SAC

Physical damage / loss of offsite habitat

4.93 The Wye Valley and Forest of Dean Bat Sites SAC comprises a network of sites designated for supporting several important maternity roosts for lesser and greater horseshoe bats. These bats are particularly reliant upon the maintenance of a suitable network of foraging and commuting habitat within the wider landscape and can therefore be affected by the loss of functionally linked habitat located outside the SAC boundary.

4.94 In general, site allocations and areas of search identified in the Publication Draft MWLP are located considerable distance from the SAC and do not share functional habitat connectivity with the SAC. As a result, they are unlikely to represent resources upon which the SAC qualifying bat populations depend. The majority of the policies and site allocations would therefore not be expected to result in Likely Significant Effects associated with physical damage and loss of offsite habitat.

4.95 A single site allocation, minerals site M12 Callow Delve is located 2.6km to the northwest of a component site of the SAC, and shares continuous habitat connectivity with the SAC via woodland habitat. In addition, site M12 supports woodland habitat and is located in close proximity to several buildings which may support roosting horseshoe bats. Therefore, in accordance with a precautionary approach, felling of significant areas of woodland could potentially result in the severance of habitat connectivity or loss of foraging habitat for horseshoe bats, if using this habitat.

4.96 Precautionary safeguards will be required to ensure that there is sufficient confidence that activities at the site would avoid harm to the SAC horseshoe bat populations. This is likely to include a commitment to undertake a project level assessment of the potential effect of site operations on horseshoe bat species as new areas are targeted for mineral workings which would involve felling of woodland, and to ensure that peripheral woodland which may be important in maintaining commuting routes for these species is maintained as appropriate.

4.97 In line with the People over Wind case law, mitigation measures cannot be considered at the screening stage and therefore the potential for adverse effects on the Wye Valley and Forest of Dean Bat Sites SAC as a result of habitat offsite habitat loss requires further consideration at the Appropriate Assessment stage.

In conclusion, the potential for Likely Significant Effects adverse effects on the Wye Valley and Forest of Dean Bat Sites SAC as a result of off-site habitat loss associated with minerals site M12, either alone or in-combination, will require consideration at the Appropriate Assessment stage.

'In-combination' effects

4.98 Regulation 105 of the Amended Habitats Regulations 2017 requires an Appropriate Assessment where "a land use plan is likely to have a significant effect on a European site (either alone or in-combination with other plans or projects) and is not directly connected with or necessary to the management of the site". Therefore, it is necessary to consider whether there may be significant effects from the Publication Draft MWLP in-combination with other plans or projects.

4.99 Where the MWLP is likely to have an effect on its own (due to impact pathways being present), whether significant or not, there may also be the same types of effects from other plans or projects that could combine with the MWLP to produce adverse effects on integrity, and therefore these need to be considered through the Appropriate Assessment stage. Where the screening assessment has concluded that there is no impact pathway between development proposed in the MWLP and the conditions necessary to maintain qualifying features of a European site, then there will be no in-combination effects to assess.

4.100 As part of helping to identify what other 'in-combination' effects could arise from other plans and projects in addition to the Publication Draft MWLP, a review has been undertaken focusing on planned spatial growth within the authorities adjacent to the County, as these are the ones most likely to give rise to in-combination effects on the European sites within 15km of the County boundary. **Appendix C** lists the plans that were considered, outlining the components of each that could have an impact on nearby European sites and considering the findings of the accompanying HRA work (where available).

4.101 The initial screening assumptions concluded that the Publication Draft MWLP will not result in any effects upon all but four European sites within the County or within 15km of its boundary due to a lack of impact pathway; therefore, in-combination assessment is not required for these sites (see **Table 4.1**).

4.102 Some impact pathways were identified for the following sites, and these were considered through the Screening Assessment described above:

- River Wye SAC (Physical damage/ loss of habitat, non-physical disturbance, air pollution, water quantity and quality, non-toxic contamination);
- River Clun SAC (air pollution, water quantity and quality);
- Wye Valley Woodlands SAC (air pollution); and,
- Wye Valley and Forest of Dean Bat Sites SAC (physical damage/loss of offsite habitat).

4.103 Following the Screening Assessment, air pollution was screened out for River Wye SAC, River Clun SAC and Wye Valley Woodlands SAC as although an impact pathway exists, when considered in more detail, the likelihood of air pollutants from minerals or waste traffic associated with sites in the Publication Draft MWLP actually reaching the qualifying habitats and/or species sensitive to air pollution is negligible. Therefore, in-combination effects for air pollution also do not need to be assessed.

4.104 Finally, as shown in **Table 4.2** below, likely significant effects for the remaining impact types on River Wye SAC, River Clun SAC and Wye Valley and Forest of Dean Bat Sites SAC cannot be ruled out for the MWLP alone (see 'LSE uncertain'/amber cells in Table 4.2). Therefore, in-combination effects have also been considered for these in the Appropriate Assessment.

Summary of HRA Screening Conclusions

4.105 A summary of the HRA Screening conclusions are provided in **Table 4.2**.

Table 4.2: Summary of screening conclusions

European Site	Physical damage / loss of habitat	Non-physical disturbance	Air pollution	Water quantity and quality	Non-toxic contamination
River Wye SAC	**LSE uncertain – proceed to AA**	**LSE uncertain – proceed to AA**	**LSE uncertain – proceed to AA**	**LSE uncertain – proceed to AA (water quality only)**	**LSE uncertain – proceed to AA**
River Clun SAC	Screened out	Screened out	**No LSE**	**No LSE**	Screened out
Downton Gorge SAC	Screened out	Screened out	Screened out	Screened out	Screened out
Wye Valley Woodlands SAC	Screened out	Screened out	**No LSE**	Screened out	Screened out
Wye Valley and Forest of Dean Bat Sites SAC	**LSE uncertain – proceed to AA**	Screened out	Screened out	Screened out	Screened out
Coed y Cerrig SAC	Screened out	Screened out	Screened out	Screened out	Screened out
Sugar Loaf Mountains SAC	Screened out	Screened out	Screened out	Screened out	Screened out
Rhos Goch SAC	Screened out	Screened out	Screened out	Screened out	Screened out
River Usk SAC	Screened out	Screened out	Screened out	Screened out	Screened out
Llangorse Lake SAC	Screened out	Screened out	Screened out	Screened out	Screened out
Usk Bat Sites SAC	Screened out	Screened out	Screened out	Screened out	Screened out
Cwm Clydach Woodlands SAC	Screened out	Screened out	Screened out	Screened out	Screened out
Lynpard Grange Ponds SAC	Screened out	Screened out	Screened out	Screened out	Screened out
Severn Estuary SPA	Screened out	Screened out	Screened out	Screened out	Screened out

European Site	Physical damage / loss of habitat	Non-physical disturbance	Air pollution	Water quantity and quality	Non-toxic contamination
Severn Estuary Ramsar	Screened out	Screened out	Screened out	Screened out	Screened out
Severn Estuary SAC	Screened out	Screened out	Screened out	Screened out	Screened out
Walmore Common SPA	Screened out	Screened out	Screened out	Screened out	Screened out

4.106 In summary, the HRA Screening identified the following potential Likely Significant Effects which will require further consideration at the Appropriate Assessment stage to determine whether they would result in Adverse Effects on Integrity, either alone or in-combination with other plans and projects:

- River Wye SAC - physical damage and loss of habitat; non-physical disturbance; water quality, air pollution and non-toxic contamination.
- Wye Valley and Forest of Dean Bat Sites SAC - physical damage and loss of offsite functionally linked habitat.

Chapter 5
Appropriate Assessment

5.1 This chapter sets out the findings of the Appropriate Assessment stage of the HRA of the Publication Draft MWLP. Likely significant effects arising from the MWLP were identified for the following European sites and impacts types:

- Physical damage and loss – in relation to the River Wye SAC, and the Wye Valley and Forest of Dean Bat Sites SAC and loss of offsite functionally linked habitat for the Wye Valley and Forest of Dean Bat Sites SAC
- Non-physical disturbance - in relation to the River Wye SAC
- Water quality - in relation to the River Wye SAC
- Air pollution – in relation to the River Wye SAC
- Non-toxic contamination - in relation to the River Wye SAC

5.2 Appropriate Assessment has been undertaken for these European sites to determine whether the Publication Draft MWLP will result in Adverse Effects on Integrity (AEoI) alone or in-combination with other plans or projects.

River Wye SAC

Physical damage and loss of habitat

5.3 At the screening stage minerals site allocation M05 and waste site allocation W45, located immediately adjacent to the River Lugg component of the River Wye SAC, were identified as potentially supporting suitable habitat for otter associated with the River Wye SAC population. The potential for physical damage and loss applies to adjacent habitats, or offsite functionally linked habitat which occur within the site allocations. Dense scrub habitat adjacent to open water and riparian habitat is likely to be particularly suitable and given the seclusion of these sites, may provide opportunities for breeding.

5.4 It is recognised that the presence of suitable habitat for otter is the result of existing and historic sand and mineral extraction at the site, and given that habitat restoration and creation would be expected to continue as part of future workings at these sites, these proposals have the potential to contribute to strengthening the population for which the SAC is designated.

5.5 The potential for otter habitat loss or damage (but also habitat restoration) also applies to Area of Search C which encompasses the above sites, and provides the search area for future minerals operations in proximity to the River Wye SAC, and policies M3 and W6 which specifically focus minerals and waste operations to the Wellington Quarry sites.

Avoidance and Mitigation

5.6 Despite the boundary of the Wellington Quarry site allocations being concurrent with the boundary of the SAC, it is unlikely that site works would encroach directly into the SAC due to the implementation of best practice working methods and policy safeguards already contained in the Local Plan-Core Strategy (i.e. Policy SS6: Environmental quality and Local Distinctiveness) and Publication Draft MWLP (e.g. paragraph 5.4.5).

5.7 In addition, it is noted that the Key Development Criteria for both the Wellington Quarry minerals extraction and inert waste management allocations in Appendix A of the MWLP require "Appropriate Assessment to demonstrate the likely significant effects on the River Wye SAC".

5.8 To provide sufficient certainty that potentially harmful effects from habitat loss or damage to the SAC can be prevented, the following avoidance and mitigation measures are recommended for inclusion in the Publication Draft MWLP:

- The site specific HRA for the Wellington Quarry minerals and waste site allocations should require detailed protected species surveys for otter to determine any site-specific mitigation and protection measures such as timing of works and disturbance buffers. This should be added to the Key Development Criteria within Appendix A.
- This requirement (for project-level/site specific HRA and targeted ecological surveys) should also be required for future proposals within Area of Search C, although there are no existing Key Development Criteria for the Preferred Areas of Search, so this would need to be added to the supporting text to policy M3.

5.9 Specifically, it is recommended that the wording of the Publication Draft MWLP is strengthened, in line with the suggested wording for paragraph 5.4.10 provided below:

- "A management strategy associated with a minerals or waste development **should, where appropriate, include an Ecological Mitigation Plan which specifies working methods, timings and buffers within the development site required to protect vulnerable ecological features, including European Sites. The mitigation plan will include appropriate disturbance buffers, with the size and shape of the buffer defined on a site-by-site basis and dependent on the attributes of the feature. Such Ecological Mitigation Plans will also be required for new sites coming forward in Area of Search A where there is potential for operations to effect the River Wye SAC.**"

Conclusion

Providing the above mitigation measures and additional recommendations are incorporated into the Publication Draft MWLP, and implemented successfully, adverse effects on the integrity of the River Wye SAC, as a result of damage and loss of habitat, will be avoided, either alone or in-combination.

Non-physical Disturbance

5.10 Proposed policy and allocations in the Publication Draft MWLP were found to have the potential to result in a likely significant effect on otter as a result of disturbance from noise, vibrations and light spill due to their proximity to the River Wye SAC. Site allocations identified in the Screening Assessment included allocations at Wellington Quarry waste and minerals sites, specifically the Area of Search C, policies M3 and W6 and associated sites M05 and W45. The potential disturbance applies to adjacent habitats, or offsite functionally linked habitat which occur within the site allocations, particularly dense scrub and wooded habitats adjacent to the River Wye, connected waterways, or area of open water.

Avoidance and Mitigation

5.11 The supporting text within Chapter 5 of the MWLP explains how Core Strategy policies SS6; LD1; LD2; LD3; and LD4 relating to Environmental Quality and Local Distinctiveness should be applied to minerals and waste development proposals. Paragraph 5.4.5 states that:

"All applications will be expected to incorporate robust measures to ensure that the proposed development does not cause an unacceptable adverse impact on either the environment or local communities, many of which can be overcome by implementing standard measures."

5.12 This includes measures to mitigate dust such as cleaning of lorry wheels before they exit the site and good maintenance of bunds and stockpiles.

5.13 Section 5.7 of the MWLP relating to Core Strategy policy SD1, Sustainable design and energy efficiency provides further commitments to ensure non-physical disturbance from noise and vibration arising from activities specific to minerals and waste development will be assessed and avoided.

Furthermore, Paragraph 5.4.10 relating to Core Strategy policy LD2, requires the production of a management strategy, which '*may include a buffer*' to protect vulnerable features.

5.14 Potential effects associated with non-physical disturbance could be avoided and mitigated through a commitment to best practice working measures and maintaining appropriate buffers between operations and the River Wye SAC. However, **to provide sufficient certainty that potential harmful effects to the SAC can be prevented, the following additional avoidance and mitigation measures, in line with those recommended above in relation to 'Physical Damage and Loss', are also recommended for inclusion in the Publication Draft MWLP in relation to non-physical disturbance:**

- A site specific HRA of minerals site allocation M05 and waste site allocation W45 as new proposals and phases come forward. This requirement would also extend to future proposals within Area of search C if suitable habitat for otter was potentially present;
- The site specific HRA would require detailed protected species surveys for otter to inform detailed mitigation, including the extent of any required mitigation buffer between minerals and waste workings and sensitive features.

5.15 Specifically, it is recommended that the wording of the Publication Draft MWLP is strengthened, in line with the suggested wording for paragraph 5.4.10 provided below:

- "A management strategy associated with a minerals or waste development **should, where appropriate, include an Ecological Mitigation Plan which specifies working methods, timings and buffers within the development site required to protect vulnerable ecological features, including European Sites. The mitigation plan will include appropriate disturbance buffers, with the size and shape of the buffer defined on a site-by-site basis and dependent on the attributes of the feature. Such Ecological Mitigation Plans will also be required for new sites coming forward in Area of Search A where there is potential for operations to effect the River Wye SAC**"

Conclusion

Providing the above recommendations are incorporated into the Publication Draft MWLP, and implemented successfully, adverse effects on the integrity of the River Wye SAC, as a result of non-physical disturbance, will be avoided, either alone or in-combination.

Water quality

5.16 As specified in the initial screening assumptions, there is potential for the Publication Draft MWLP to result in impacts to the River Wye SAC through changes in water quality. In particular, this relates to the potential discharge and run off of contaminated water, and leaching of chemicals, pollutants and nutrients that may be associated with minerals and waste sites. The Screening Assessment concluded that Likely Significant Effects are uncertain in relation to:

- Mineral policy M3: The winning and working of sand and gravel (and in particular site allocation M05 Wellington Quarry);
- Mineral policy M5: Winning and working of sandstone (in particular at permitted sites M12 Callow Delve and M20 Westonhill Wood Delve);
- Waste policy W3: Agricultural waste management;
- Waste policy W4: Wastewater management;
- Waste policy W6: Preferred locations for construction, demolition and excavation waste facilities (and in particular site allocation W45 Wellington Quarry).

5.17 The Preparing the Publication Draft MWLP document provides a very useful description of the types of minerals and waste activities that could actually result in water pollution (specifically increases in phosphate discharges) to the River Wye SAC. This is important as it is not meeting its conservation objectives to maintain favourable status due mainly to exceedance of phosphate targets.

5.18 There is an existing Nutrient Management Plan (NMP) for the River Wye SAC, which sought to identify actions that would enable additional development in the Local Plan-Core Strategy (beyond existing wastewater discharge consents) to proceed. However, due to the phosphate targets still being exceeded, and the implications of the Dutch Nitrogen case (that there must be certainty that mitigation and avoidance measures will actually be achieved), the NMP has been superseded by new documents published by the Council in March 2020 (Position Statement and FAQs on Development in the River Lugg Catchment Area, and a Guidance Note and Checklist relating to HRA and planning applications). These mostly focus on applications for residential or commercial development that will result in overnight stays, as the River Wye SAC NMP identified that 'point source discharges, such as industrial and wastewater treatment works (WwTW) discharges are responsible for a large portion of the phosphate loading to the rivers. The main diffuse source of phosphate is thought to be from agricultural sources via land run off.'

5.19 Mineral working proposals would not normally be considered as a source of phosphate, as they do not generate

wastewater from residential occupancy and there is no mining of phosphate rock in Herefordshire. Therefore, while the above policies and site allocations could result in some discharges/run-off to the River Wye, these are unlikely to adversely affect the integrity of the SAC because any discharges or run-off will not be high in phosphates. However, the Preparing the Publication Draft MWLP document recognises that mineral working can result in a change in agricultural land, throughout the extraction process: stripping away topsoil and subsoil; extracting the mineral; and restoration. Restoration proposals involving schemes that would draw in a lot of visitors to the area could also result in phosphate releases (from wastewater). Restoration to agriculture could also result in phosphate releases, if too much of the nutrient is added to the land.

5.20 Solid waste proposals would not normally be considered as a source of phosphate. The Preparing the Publication Draft MWLP document however refers to research[38] from 2011 that indicates that phosphate may be released from some waste management processes: municipal solid wastes and clinical and hazardous wastes going through thermal processes and disposal to landfill. The MWLP does not promote the landfill of municipal solid waste, clinical or hazardous wastes within Herefordshire; no suitable locations have been identified. The MWLP does promote the use of thermal processes to recover energy from residual wastes. However, further research in 2016[39] does not identify phosphate as a main air-borne emission from energy from waste facilities. Instead, the phosphate (as phosphorus) is captured in the fly ash, the residue resulting from air pollution control measures within the facility. The thermal treatment of wastes is consequently not of itself a likely phosphate source, either from waste treatment processes or from the disposal of fly ash.

Avoidance and Mitigation

5.21 The risks of phosphate discharges relating to stripping away topsoil and subsoil; extracting the mineral; and restoration can be avoided by the use of conditions requiring development proposals to demonstrate how 'nutrient neutrality' (i.e. a project would result in no net increase in the phosphate load being discharged to the River Wye SAC; this could be after controls at source, reduction by treatment, and/or offsetting measures), or 'betterment' (i.e. an improvement in the current situation regarding phosphate impacts, above and beyond neutrality) would be achieved.

5.22 The requirement for developments to achieve nutrient neutrality or betterment in relation to the River Wye SAC has been added to the Publication Draft MWLP within the Key Development Criteria for all three sand and gravel allocations in policy M3, Perton Quarry in policy M4, Callow Delve and Westonhill Wood Delves in policy M5, all but one of the waste allocations in policy W5 (2) (Land between Little Marcle Road and Ross Road), all of the waste allocations in policy W5 (3) except Ledbury Household Waste Recycling Centre and all of the allocations in policy W6.

5.23 In addition, the supporting text within Chapter 5 of the MWLP explains how Core Strategy policies SS6; LD1; LD2; LD3; and LD4 relating to Environmental Quality and Local Distinctiveness should be applied to minerals and waste development proposals. Paragraph 5.4.5 states that:

"All applications will be expected to incorporate robust measures to ensure that the proposed development does not cause an unacceptable adverse impact on either the environment or local communities, many of which can be overcome by implementing standard measures."

5.24 This includes general measures to mitigate water pollution such as cleaning of lorry wheels before they exit the site and good maintenance of bunds and stockpiles, as well as locating plant, machinery and haulage routes away from sensitive receptors.

5.25 In relation to agricultural waste management, policy W3 now states "Demonstration of the approach undertaken [to anaerobic digestion facilities] within that [agricultural] unit that contributes to achieving nutrient neutrality, or betterment, within the River Wye SAC will be required with all development proposals."

5.26 In addition, policy W4 has been updated and recognises the potential effects of wastewater discharges to the phosphate levels in the River Wye SAC by requiring that any wastewater infrastructure extensions, upgrades or new provision should contribute to achieving nutrient neutrality, or betterment, within the River Wye SAC. Wherever practical and economical, biogas should be recovered for use as an energy source and phosphorus should be recovered for beneficial uses. The supporting text has been updated to reflect the location specific intentions for wastewater infrastructure operated by Dwr Cymru/Welsh Water.

5.27 Finally, policy W7 has been updated to include encouragement for the recovery of phosphorus from the resultant fly ash, to be put to beneficial purposes.

[38] WR0608, Emissions from Waste Management Facilities. Environmental Resources Management Ltd, July 2011. http://sciencesearch.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&Completed=0&ProjectID=15234

[39] Assessment of particulate emissions from energy-from-waste plant. Defra, 2016. https://ukair.defra.gov.uk/assets/documents/reports/cat07/1511261133_AQ0726_PM_EfW_emissions_report_Issue2_with_appendices.pdf

Conclusion

Providing that the avoidance and mitigation safeguards outlined above are implemented successfully, adverse effects on the integrity of the River Wye SAC, as a result of changes in water quality, will be avoided, either alone or in-combination.

Air Pollution

5.28 The HRA Screening identified the potential for 'anaerobic digestion' or 'energy from waste' facilities to effect the River Wye SAC through air pollution associated with the release of gaseous emissions.

5.29 The MWLP policies do not identify any specific locations and so it is not possible to fully assess the likelihood of this effect occurring at this stage due to a lack of information about the precise location, type and scale of development, which will not be known until the planning application stage.

5.30 However, waste management facilities will need to meet the high standards of design and operation that are required to obtain an Environmental Permit (EP), as regulated by the Environment Agency. The requirement to meet EP standards (including emissions to air, land and water, energy efficiency, noise, vibration and heat and accident prevention) would ensure that the design and operation of waste and agricultural facilities will need to demonstrate that they will avoid harm to the River Wye SAC (and other European sites).

Conclusion

Providing that the safeguards outlined above are implemented successfully, adverse effects on the integrity of the River Wye SAC, as a result of air pollution from anaerobic digestion and energy from waste sites, will be avoided, either alone or in-combination.

Non-toxic contamination

5.31 As described in the initial screening assumptions, non-toxic contamination during mineral extraction, waste operations and/or transportation of minerals and waste to and from the site may create dust and sediment which can be harmful to qualifying features of European Sites, for example through smothering which can limit natural processes such as photosynthesis or affect the turbidity and temperature of water. **Chapter 3** identified that the potential for non-toxic contamination as a result of the Publication Draft MWLP, which relates primarily to dust creation, is restricted to sites in proximity (<500m) of the River Wye SAC.

5.32 A review of the site allocations considered the proximity of sites to the River Wye SAC and the presence of any intervening habitat (e.g. woodlands) which would act as an avoidance buffer for such effects. This review identified that the potential for non-toxic contamination is limited to the Wellington Quarry waste and minerals site (M05 and W45) because this site is located adjacent to the River Wye SAC.

5.33 These sites and the operations proposed there (minerals extraction and transport, and treatment of inert waste) have the potential to result in dust creation which could smother riparian vegetation, and change the physical conditions of aquatic habitat of the adjacent River Wye SAC. This could potentially damage or prevent the natural processes required by qualifying features including fish species and aquatic plants, and thereby result in Likely Significant Effects.

5.34 This conclusion also applies to Area of Search C which encompasses the above sites, and provides the search area for future minerals operations in proximity to the River Wye SAC, and policies M3 and W6 which specifically focus minerals and waste operations to the Wellington Quarry sites.

Avoidance and Mitigation

5.35 The supporting text within Chapter 5 of the MWLP explains how Core Strategy policies SS6; LD1; LD2; LD3; and LD4 relating to Environmental Quality and Local Distinctiveness should be applied to minerals and waste development proposals. Paragraph 5.4.5 states that:

"All applications will be expected to incorporate robust measures to ensure that the proposed development does not cause an unacceptable adverse impact on either the environment or local communities, many of which can be overcome by implementing standard measures".

5.36 Furthermore, Section 5.7 of the MWLP relating to Core Strategy policy SD1, Sustainable design and energy efficiency offers commitments to reduce dust specifically paragraphs 5.7.4 to 5.7.8. **It is recommended that the wording of this section of the Publication Draft MWLP is strengthened, in line with the suggested replacement wording for paragraphs 5.7.6 and 5.7.7 provided below**:

- "5.7.6: If not properly controlled at source, dust can cause nuisance to people and businesses, and harm through deposition on property and farmland. **Dust can also cause adverse ecological impacts to sensitive sites.**"
- "5.7.7: A dust assessment will be required where fugitive dust emissions are likely to cause a nuisance **or adverse ecological impact**; atmospheric dispersion modelling may be required to determine whether there is a risk of health effects due to dust emissions. A separate dust assessment is not required where dust is

addressed within an air quality assessment and/or health impact assessment as appropriate."

5.37 Finally, Appendix A of the Publication Draft MWLP (Allocated Sites and the Key Development Criteria) includes site specific project level assessment requirements that should ensure that adverse effects on the River Wye SAC will be avoided.

Conclusion

Providing that the avoidance and mitigation safeguards outlined above are committed to and implemented, and implemented successfully, adverse effects on the integrity of the River Wye SAC, as a result of non-toxic contamination, will be avoided, either alone or in-combination.

Wye Valley and Forest of Dean Bat Sites SAC

Physical damage / loss of offsite habitat

5.38 Proposed minerals allocation M12 Callow Delve in the Publication Draft MWLP was identified as having the potential to provide offsite but functionally linked habitat for the horseshoe bats associated with the Wye Valley and Forest of Dean Bat Sites SAC.

5.39 Indeed, woodland habitats within and adjacent to the site allocation may support foraging and commuting areas whilst buildings within the site may provide opportunities for roosting outside of the SAC, but which contributes to the integrity of the SAC population.

5.40 Minerals working at this site has the potential to reduce or degrade the quality of habitats through loss of habitat or changes in its extent, quality and distribution.

5.41 Nevertheless, given the distance of this site from the SAC, the potential for effects which could adversely affect the integrity of the SAC are considered unlikely and therefore consideration of this impact is considered highly precautionary in line with HRA best practice.

Avoidance and Mitigation

5.42 To address the recommendation relating to this impact in the 2018 HRA Report, Appendix A of the Publication Draft MWLP (Allocated Sites and the Key Development Criteria) includes site specific project level HRA requirements to ensure that adverse effects on the Wye Valley and Forest of Dean Bat Sites SAC will be avoided, as follows:

- "*An AA is required to demonstrate the likely significant effects on the SAC. Need to demonstrate how habitat severance for horseshoe bats will be prevented, which may require the periphery woodland to be retained.*"

Conclusion

Given the above mitigation measure already included in the Publication Draft MWLP, adverse effects on the integrity of the Wye Valley and Forest of Dean Bat Sites SAC, as a result of damage and loss of off-site habitat, will be avoided, either alone or in-combination.

Chapter 6
Conclusions

HRA Screening

6.1 The HRA Screening identified the following potential Likely Significant Effects which required further consideration at the Appropriate Assessment stage to determine whether they would result in Adverse Effects on Integrity, either alone or in-combination with other plans and projects:

- River Wye SAC - physical damage and loss of habitat; non-physical disturbance; water quality, air pollution and non-toxic contamination.
- Wye Valley and Forest of Dean Bat Sites SAC - physical damage and loss of offsite functionally linked habitat.

Appropriate Assessment

River Wye SAC

Habitat loss/damage and non-physical disturbance

6.2 Wellington Quarry site allocations and Area of Search C, located immediately adjacent to the River Lugg component of the River Wye SAC, were identified as potentially supporting suitable habitat for otter associated with the River Wye SAC, and therefore site operations had the potential to impact otters through habitat loss and damage, or through non-physical disturbance.

6.3 Mitigation measures were recommended for inclusion within the Publication Draft MWLP including, site specific HRA, and a requirement for preparation of site-specific Ecological Mitigation Plans to protect the SAC.

6.4 It was concluded that providing the additional recommendations are included and implemented, the Publication Draft MWLP will not give rise to adverse effects on the integrity of the River Wye SAC, either alone or in-combination with other plans or projects as a result of habitat loss and damage or through non-physical disturbance.

Changes in water quality

6.5 The HRA identified the potential for the Publication Draft MWLP to result in impacts to the River Wye SAC through changes in water quality as a result of discharge and run-off of contaminated water, and leaching of chemicals, pollutants and nutrients that may be associated with minerals and waste site. The primary risk to the River Wye SAC was identified as being increasing Phosphate levels within the catchment.

6.6 The requirement for developments to achieve nutrient neutrality or betterment in relation to the River Wye SAC, and in line with Natural England guidance, has been added to the Publication Draft MWLP and supporting text within Chapter 5 of the MWLP explains how Core Strategy policies should be applied to minerals and waste development proposals. Crucially, agricultural waste management policies W3 and W4 and the Key Development Criteria for relevant minerals and waste site allocations include specific reference to achieving nutrient neutrality or betterment, achieving reductions in phosphate releases and to encourage phosphate recovery for beneficial uses.

6.7 It was therefore concluded that, in light of the existing safeguards provided, the Publication Draft MWLP will not give rise to adverse effects on the integrity of the River Wye SAC, either alone or in-combination with other plans or projects as a result of changes in water quality.

Air pollution

6.8 The HRA Screening identified the potential for 'anaerobic digestion' or 'energy from waste' facilities to affect the River Wye SAC through air pollution if proposals come forward within 10km of the SAC. However, any such proposal will need to obtain an Environmental Permit (EP), as regulated by the Environment Agency. This ensures that there is a requirement to demonstrate that they will avoid harm to the River Wye SAC (and other European sites).

6.9 It was therefore concluded that, in light of the existing safeguards provided, the Publication Draft MWLP will not give rise to adverse effects on the integrity of the River Wye SAC, either alone or in-combination with other plans or projects as a result of air pollution associated with anaerobic digestion or energy from waste facilities.

Non-toxic contamination

6.10 The potential for non-toxic contamination, for example through smothering from dust, was limited to the Wellington Quarry waste and minerals sites and Area of Search C because of their proximity to the River Wye SAC, and policies

M3 and W6 which specifically focus minerals and waste operations to the Wellington Quarry sites.

6.11 Avoidance and mitigation measures already included in the Core Strategy were considered likely to considerably reduce the potential for adverse effects on integrity but additional recommendations were made to provide more certainty. This included recommendations to strengthen section 5.7 of the MWLP relating to Core Strategy policy SD1 including a commitment to assessing and mitigation effects on ecological receptors from dust.

6.12 Appendix A of the Publication Draft MWLP (Allocated Sites and the Key Development Criteria) also provide robust mitigation and avoidance safeguards including a requirement for site specific project level assessment.

6.13 It was concluded that providing the additional recommendations are included and implemented, the Publication Draft MWLP will not give rise to adverse effects on the integrity of the River Wye SAC, either alone or in-combination with other plans or projects as a result of non-toxic contamination.

Wye Valley and Forest of Dean Bat Sites SAC

Loss of functionally linked habitat

6.14 Proposed minerals allocation M12 Callow Delve in the Publication Draft MWLP was identified as having the potential to provide offsite but functionally linked habitat for the horseshoe bats associated with the Wye Valley and Forest of Dean Bat Sites SAC.

6.15 Appendix A of the Publication Draft MWLP (Allocated Sites and the Key Development Criteria) includes specific avoidance and mitigation safeguards, including the requirement for project level HRA which demonstrates how adverse effects on horseshoe bats will be avoided.

6.16 Therefore, the safeguards already included in the Publication Draft MWLP will ensure that adverse effects on the integrity of the Wye Valley and Forest of Dean Bat Sites SAC, as a result of damage and loss of off-site habitat, will be avoided, either alone or in-combination.

Summary of Recommendations

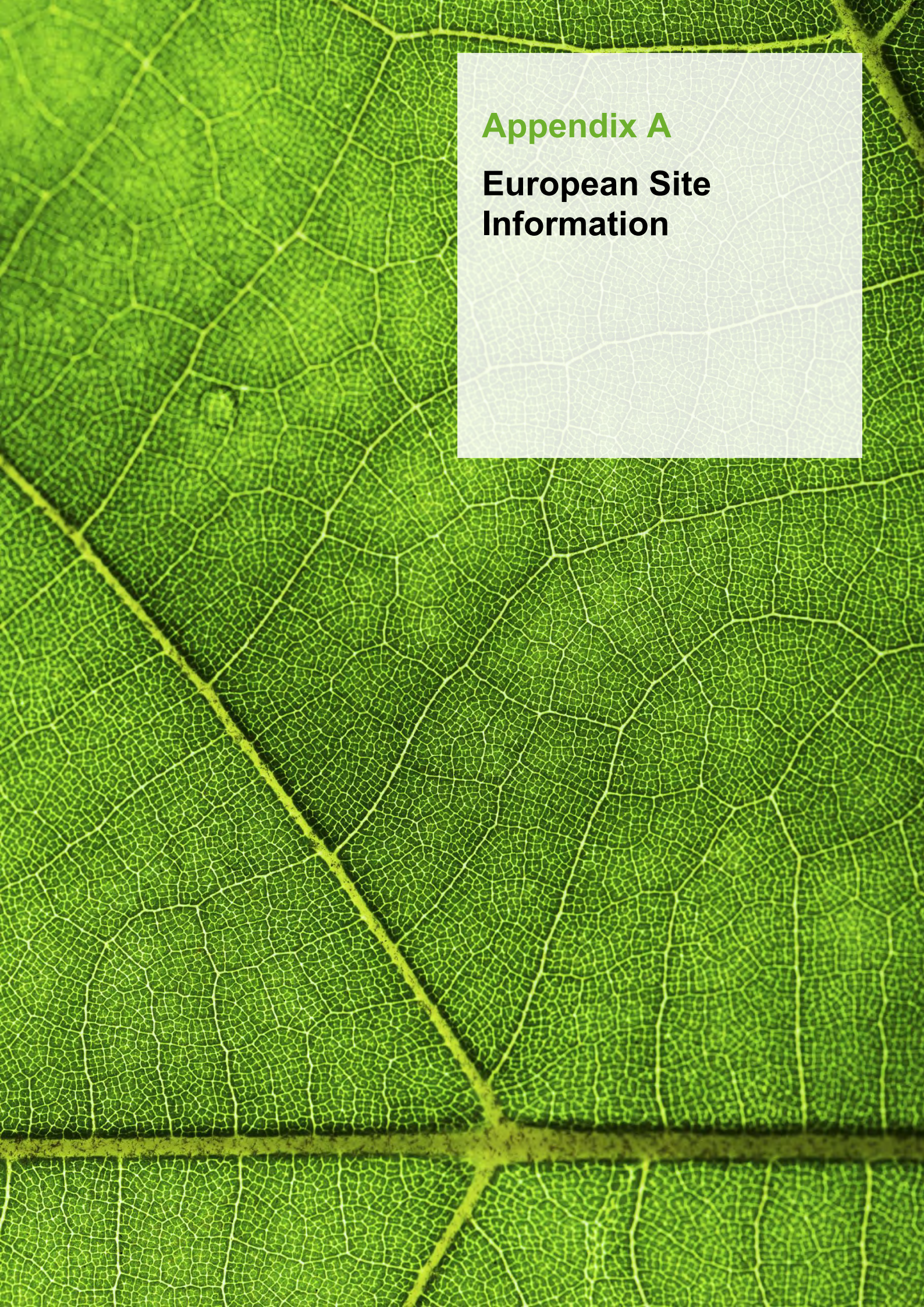
6.17 The following recommendations are made to provide certainty that adverse effects on European Sites will be avoided.

Reference Location	Recommendation
MWLP Appendix A: Key Development Criteria	Commitment to site specific HRA for the Wellington Quarry minerals and waste site allocations including requirement for detailed protected species surveys for otter to determine any site specific mitigation and protection measures such as timing of works and disturbance buffers.
MWLP - Policy M3	Requirement for project-level/site specific HRA and targeted ecological survey for otter.
MWLP - paragraph 5.4.10	Recommend inclusion of the following wording: "*A management strategy associated with a minerals or waste development should, where appropriate, include an Ecological Mitigation Plan which specifies working methods, timings and buffers within the development site required to protect vulnerable ecological features, including European Sites. The mitigation plan will include appropriate disturbance buffers, with the size and shape of the buffer defined on a site-by-site basis and dependent on the attributes of the feature. Such Ecological Mitigation Plans will also be required for new sites coming forward in Area of Search A where there is potential for operations to effect the River Wye SAC.*"
MWLP – Section 5.7.6	It is recommended that the wording of this section of the Publication Draft MWLP is strengthened, in line with the suggested replacement wording for paragraph 5.7.6: "5.7.6: I*f not properly controlled at source, dust can cause nuisance to people and businesses, and harm through deposition on property and farmland.* ***Dust can also cause adverse ecological impacts to sensitive sites***."
MWLP – Section 5.7.7	It is recommended that the wording of this section of the Publication Draft MWLP is strengthened, in line with the suggested replacement wording for paragraph 5.7.7: "5.7.7: *A dust assessment will be required where fugitive dust emissions are likely to cause a nuisance* ***or adverse ecological impact****; atmospheric dispersion modelling may be required to determine whether there is a risk of health effects due to dust emissions. A separate dust assessment is not required where dust is addressed within*

	an air quality assessment and/or health impact assessment as appropriate."

HRA Conclusion

In summary, providing the existing mitigation measures provided by the Local Plan-Core Strategy policies and MWLP supporting text and Key Development Criteria are successfully implemented, along with the inclusion and implementation of the additional recommendations listed above, the Publication Draft MWLP will not give rise to adverse effects on the integrity of European sites, either alone or in-combination with other plans or projects.



Appendix A

European Site Information

Appendix A

European Site Information

Table A.1: European Site Information

Site Name	Area (ha)	Location	Qualifying Features	Key Vulnerabilities and Environmental Conditions to Support Site Integrity	Natural England Conservation Objectives
European Sites within (or partly within) Herefordshire					
River Wye SAC	2234.89	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.	Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation Transition mires and quaking bogs; very wet mires often identified by an unstable 'quaking' surface *Austropotamobius pallipes;* White-clawed (or Atlantic stream) crayfish *Petromyzon marinus;* Sea lamprey *Lampetra planeri;* Brook lamprey *Lampetra fluviatilis;* River lamprey *Alosa alosa;* Allis shad *Alosa fallax;* Twaite shad *Salmo salar;* Atlantic salmon *Cottus gobio;* Bullhead *Lutra lutra;* Otter	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, Japanese Knotweed, Giant Hogweed 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**	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; and, ■ The distribution of qualifying species within the site.

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				which exceeds site relevant critical loads; **inappropriate scrub control**; undergrazing; and **poor site management** when undertaking works on Network Rail's assets.	
Downton Gorge SAC	68.88	Fragmented site lying to the north within the county.	*Tilio-Acerion* forests of slopes, screes and ravines; Mixed woodland on base-rich soils associated with rocky slopes	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.	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; and, ■ The distribution of qualifying species within the site.
River Clun SAC	14.93	Fragmented site both beyond the county boundary to the north within Shropshire and	*Margaritifera margaritifera;* Freshwater pearl mussel	**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,	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:

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		north within the county.		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**.	■ 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; and, ■ The distribution of qualifying species within the site.
European Sites outside of Herefordshire but within 15km					
Rhos Goch SAC	67.59	Fragmented site beyond the county boundary to the west within East Wales.	Active raised bogs Transition mires and quaking bogs *Molina* meadows on calcareous, peaty or clayey-silt-laden soils Bog woodland Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior*	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.	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;

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					■ Populations of the habitat's typical species must be being maintained or where appropriate increasing; and, ■ 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; and, ■ Factors affecting the population or its habitat should be under appropriate control.
Llangorse Lake SAC	215.44	Outside of the county boundary to the south west within East Wales.	*Lutra Lutra;* Ottter *Rhinolophus hipposideros:* Lesser horseshoe bat	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	The vision for this feature is for it to be in a favourable conservation status, where all of 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.

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				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.	■ 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.
Usk Bat Sites SAC	1686.025	Outside of the County boundary to the south west within East Wales, West Wales and the Valleys.	*Rhinolophus hipposideros:* Lesser horseshoe bat *Rhinolophus ferrumequinum:* Greater horseshoe bat *Myotis bechsteinii:* Bechstein's bat *Barbastella barbastellus:* Barbastelle bat	The Usk Valley area contains one of the largest maternity roosts for less horseshoe bats as well as a number of 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.	The vision for this feature is for it to be in a favourable conservation status, where all of the following conditions are satisfied: ■ The site will support a sustainable population of lesser horseshoe bats in the River Usk area. ■ The population will 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

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					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.
Cwm Clydach Woodlands SAC	28.08	Outside of the County boundary to the south west within West Wales and The Valleys.	*Rhinolophus hipposideros:* Lesser horseshoe bat *Asperulo-Fagetum* beech forests	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	The vision for this feature is for it to be in a favourable conservation status, where all of 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.

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				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.	■ 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.
Coed y Cerrig SAC	8.99	Outside of the County boundary to the south west within West Wales and The Valleys.	Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* *Rhinolophus hipposideros:* Lesser horseshoe bat *Viburnum opulus:* Guelder-rose *Prunus padus:* Bird cherry	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	The vision for this feature is for it to be in a favourable conservation status, where all of 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

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				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**.	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.
Sugar Loaf Woodlands SAC	173.09	Outside of the County boundary to the south west	*Quercus petrae:* Sessile Oak	Canopy regeneration is a key attribute for signifying the functioning, habitat quality and sustainability of most woodland types, including sessile oak woods.	The vision for this feature is for it to be in favourable conservation status within the site, as a functioning

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		within West Wales and The Valleys.	*Vaccinium myrtillus:* Bilberry *Deschampsia flexuosa:* Wavy hair-grass	**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.	and regenerating* oak wood, where all of 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.
River Usk SAC	967.97	Outside of the County boundary to the south west within East Wales, West Wales and The Valleys.	*Ranunculus fluitans:* Buttercup *Callitricho-Batrachion:* Buttercup	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	Conservation Objective for the water course: 1. The capacity of the habitats in the SAC to support each feature at near-natural population levels.

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			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	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.	2. The ecological status of the water environment should be sufficient to maintain a stable or increasing population of each feature. 3. Flow regime, water quality and physical habitat should be maintained in, or restored as far as possible to, a near-natural state. 4. 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. 5. 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. 6. The river planform and profile should be predominantly unmodified. 7. River habitat SSSI features should be in favourable condition. 8. 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. 9. Natural factors should not be modified. 10. 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.

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					11. Flow objectives for assessment points in the Usk Catchment Abstraction Management Strategy will be agreed between EA and CCW. 12. Levels of nutrients, in particular phosphate, will be agreed between EA and CCW for each Water Framework Directive water body in the Usk SAC.
Wye Valley Woodlands SAC	916.24	Fragmented site outside of the County boundary to the south within Gloucestershire, Herefordshire, and Monmouthshire.	*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 *Rhinolophus hipposideros;* Lesser horseshoe bat	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 in light of 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.	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; and, ■ The distribution of qualifying species within the site.

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Wye Valley and Forest of Dean Bat Sites SAC	142.70	Outside of the County boundary to the south east within Gloucestershire and Monmouthshire.	*Rhinolophus hipposideros;* Lesser horseshoe bat *Rhinolophus ferrumequinum;* Greater horsehoe bat	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 a 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**.	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; and, ■ The distribution of qualifying species within the site.

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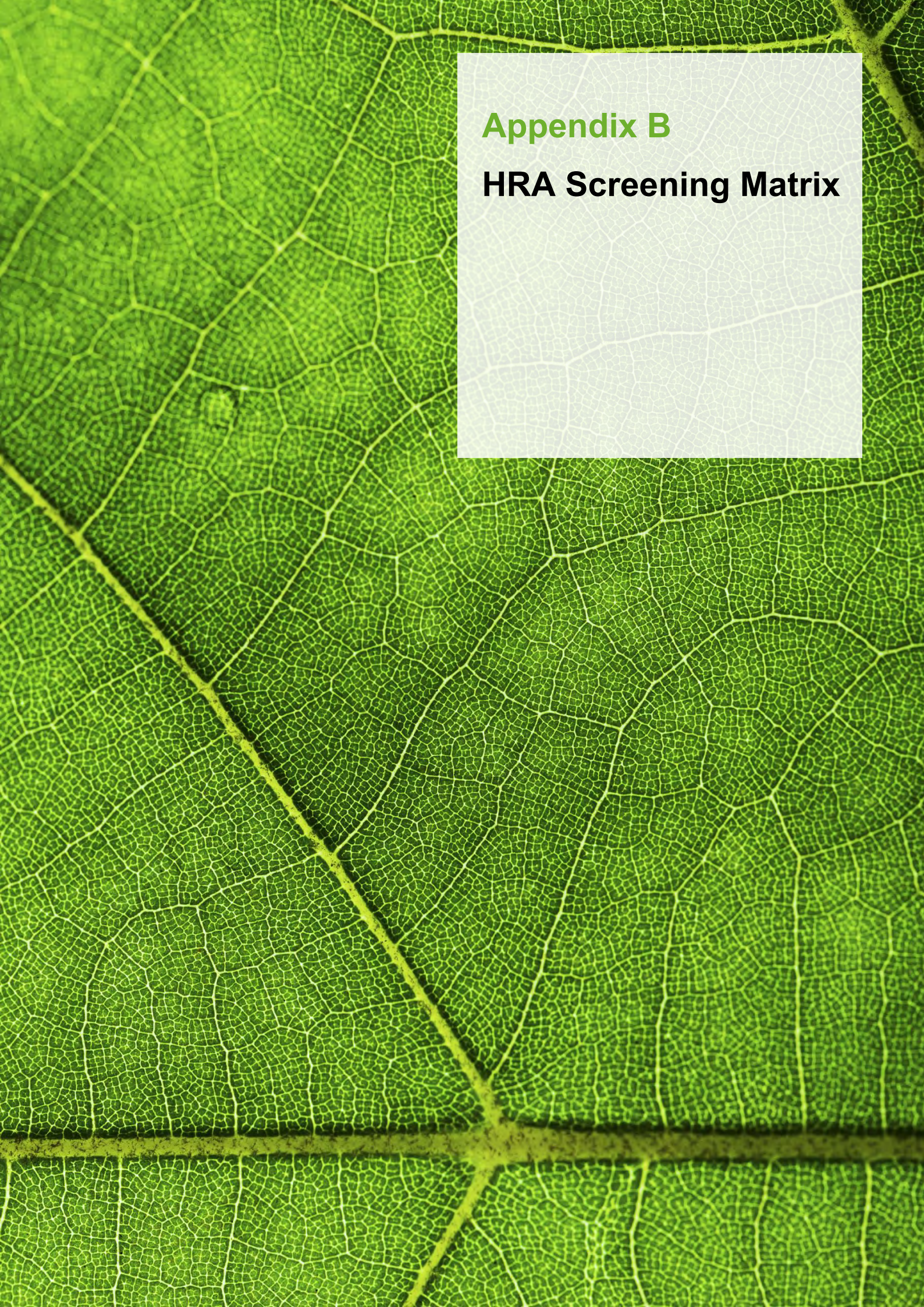
Severn Estuary SAC	73715.40	Outside of the County boundary to the south east within Bristol City, Gloucestershire, Bath & North East Somerset, Somerset, South Gloucestershire and the Welsh counties of Vale of Glamorgan, Cardiff, Newport and Monmouthshire.	Sandbanks which are slightly covered by sea water all the time; Subtidal sandbanks Estuaries Mudflats and sandflats not covered by seawater at low tide; Intertidal mudflats and sandflats Reefs *Glauco-Puccinellietalia maritimae:* Atlantic salt meadows *Petromyzon marinus:* Sea Lamprey *Lampetra fluviatilis:* River Lamprey *Alosa fallax:* Twaite Shad	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**.	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; and, ■ The distribution of qualifying species within the site.

Site Name	Area (ha)	Location	Qualifying Features	Key Vulnerabilities and Environmental Conditions to Support Site Integrity	Natural England Conservation Objectives
Severn Estuary SPA and Ramsar Site	16,942	Outside of the County boundary to the south east within Bristol City, Gloucestershire, Bath & North East Somerset, Somerset, South Gloucestershire and the Welsh counties of Vale of Glamorgan, Cardiff, Newport and Monmouthshire.	Estuaries *Glauco-Puccinellietalia maritimae:* Atlantic salt meadows *Petromyzon marinus:* Sea Lamprey *Lampetra fluviatilis:* River Lamprey *Alosa fallax:* Twaite Shad *Cygnus columbianus bewickii:* Berwick's Swan *Charadrius hiaticula:* Ringed Plover *Numenius arquata:* Curlew *Calidris alpine alpine:* Dunlin *Anas acuta:* Pintail *Tringa tetanus:* Redshank *Tadorna tadorna:*Shelduck	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**.	This Ramsar site does not have specific objectives, so we can assume the objectives for the SAC carries over. 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; and, ■ The distribution of qualifying species within the site.
Walmore Common SPA and Ramsar Site	52.85	Outside of the County boundary to the south east within Gloucestershire.	*Cygnus columbianus bewickii:* Bewick's Swan	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	No conservation objectives published for the Ramsar site.

Site Name	Area (ha)	Location	Qualifying Features	Key Vulnerabilities and Environmental Conditions to Support Site Integrity	Natural England Conservation Objectives
				peat in the County. It is one of three similar wetland sites of local botanical and ornithological importance. 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.	
Lynpard Grange Ponds SAC	1.09	Outside the County boundary to the north east within Worcestershire.	*Triturus cristatus:* Great crested newt	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**.	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; and, ■ The distribution of qualifying species within the site.



Appendix B

HRA Screening Matrix

Appendix B

HRA Screening Matrix

Table B.1: HRA Screening Matrix

Policy/ Site Ref.	Name	Type	Discussion	Conclusion of Likely Significant Effect (LSE) either alone or in-combination
Strategic Policies				
SP1	Resource Management	Strategic Policy	This policy sets out how the use of minerals and waste resources will be directed to contribute positively to addressing climate change. This policy would not result in development because it sets out criteria relating to development and seeks to protect the natural environment.	No LSE
SP2	Access to open space and recreation from minerals and waste development	Strategic Policy	The focus of policy SP2 is on providing outdoor facilities from mineral workings and waste sites that benefit both wildlife and local communities. Recreational pressures have the potential to harm sensitive ecological receptors such as birds. However, the policy recognises that "public access may not be appropriate, or may need to be restricted in some areas, for example due to safety hazards or to protect a particular habitat". Crucially, the European sites located within Herefordshire are not sensitive to recreational pressures or are located sufficient distance from minerals and waste sites to ensure that recreational pressures would not be expected.	No LSE
SP3	Transport within sites	Strategic Policy	This policy states that planning permission will be granted for minerals or waste development where it is demonstrated that the arrangements for the transport of mineral, waste or other materials within the site minimises the potential for adverse impacts, including greenhouse gas emissions, and optimises the opportunities for green infrastructure. This policy would not result in development because it sets out criteria relating to development and seeks to protect the natural environment.	No LSE
SP4	Reclamation	Strategic Policy	This policy details the requirements for reclamation. It specifies that satisfactory schemes will include "proposals that deliver landscape scale benefits and/or integrated green infrastructure appropriate to its location". This policy may contribute towards providing benefits for European sites (for example providing flooded gravel pits in proximity to the River Wye SAC which may benefit otter). This policy would not result in development because it sets out criteria relating to development and seeks to protect the natural environment.	No LSE
Mineral-related Policies				
M1	Mineral Strategy	Minerals Policy	This policy sets out the approach to the "sustainable winning and working of mineral resources in Herefordshire. This is policy would not result in development because it sets out criteria relating to development.	No LSE

Policy/ Site Ref.	Name	Type	Discussion	Conclusion of Likely Significant Effect (LSE) either alone or in-combination
M2	Safeguarding of mineral resources from sterilisation	Minerals Policy	This policy sets out the circumstances where non-minerals related development would be permitted in minerals safeguarding areas. This policy would not result in development because it sets out criteria relating to development and seeks to protect the natural environment.	No LSE
M3	The winning and working of sand and gravel	Minerals Policy	This policy specifies that *"sand and gravel extraction shall be permitted at the following locations"*, and therefore directs development to location (e.g. Wellington Quarry) where potential Likely Significant Effects on the River Wye SAC have been identified as a result of non-toxic contamination, non-physical disturbance, water quantity and quality and physical loss and damage.	**Yes – Potential for LSE to River Wye SAC due to:** ■ **Physical damage or loss** ■ **Non-toxic contamination** ■ **Non-physical disturbance** ■ **Water quality (run-off / discharge)** ■ **Water quantity (abstraction)**
M4	The winning and working of crushed rock	Minerals Policy	This policy specifies that *"crushed rock extraction shall be permitted at the following locations"*, and therefore directs development to locations. Nevertheless, the locations specified have been considered under the site specific allocation and areas of search (see below) and none of the specified locations is predicted to result in Likely Significant Effects either alone or in-combination. The policy also specifies that 'other areas of search' but this does not specify locations and any such location would be subject to the assessment under the habitat regulations and only permitted where Likely Significant Effects or adverse effects on integrity can be prevented.	No LSE
M5	The winning and working of building stone (sandstone)	Minerals Policy	This policy specifies proposals for sandstone extraction at Westonhill Wood Delves where potential Likely Significant Effects on the River Wye SAC have been identified as a result of water quality.	**Yes – Potential for LSE to River Wye SAC due to:** ■ **Water quality (run-off)**
M6	Borrow Pits	Minerals Policy	This policy would not result in development because it sets out criteria relating to development.	No LSE

Policy/ Site Ref.	Name	Type	Discussion	Conclusion of Likely Significant Effect (LSE) either alone or in-combination
Waste-related policies				
W1	Waste Strategy	Waste Policy	This policy would not result in development because it sets out criteria relating to the waste strategy.	No LSE
W2	Solid waste management requirements	Waste Policy	This policy would not result in development because it sets out criteria relating to waste management requirements.	No LSE
W3	Agricultural waste management	Waste Policy	This policy could result in development of anaerobic digestion facilities within agricultural holdings/units. The policy sets out when planning permission would be granted, and specifies the requirement for the approach undertaken to contribute to achieving nutrient neutrality, or betterment, within the River Wye SAC.	**Yes – Potential for LSE to River Wye SAC due to:** ■ **Water quality (run-off / discharge)**
W4	Waste water management	Waste Policy	This policy sets out set out guiding principles for new waste water development, specifying that planning permission will be granted to the statutory water and sewerage undertaker to extend, upgrade, or make provision for new infrastructure necessary to ensure the statutory undertaker can continue to undertake its duty to supply potable water and treat foul flows. The policy recognises the potential effects of wastewater discharges to the phosphate levels in the River Wye SAC by requiring that works undertaken should contribute to achieving nutrient neutrality, or betterment, within the River Wye SAC. Wherever practical and economical, biogas should be recovered for use as an energy source and phosphorus should be recovered for beneficial uses.	**Yes – Potential for LSE to River Wye SAC due to:** ■ **Water quality (run-off / discharge)**
W5	Preferred locations for solid waste treatment facilities	Waste Policy	This policy specifies that sustainable waste treatment will be delivered through a combination of small and large scale facilities focussed at the following locations: small scale facilities located at any industrial estate or strategic employment area; large scale facilities located at any strategic employment area; and at Leominster Household Waste Site and Household Waste Recovery Centre; Ledbury Household Waste Recovery Centre; Kington Household Waste Recovery Centre; and the Former City Spares site, Watery Lane, Hereford. Each of these site locations has been assessed individually, and it has been concluded that they will not result in Likely Significant Effects.	No LSE
W6	Waste management operational Preferred	Waste Policy	This policy identifies preferred locations for construction, demolition and excavation waste management facilities, including at Wellington Quarry where potential Likely Significant Effects on the River Wye SAC have been identified.	**Yes – Potential for LSE to River Wye SAC due to:** ■ **Physical damage or loss**

Policy/ Site Ref.	Name	Type	Discussion	Conclusion of Likely Significant Effect (LSE) either alone or in-combination
	locations for construction, demolition and excavation waste facilities			■ **Non-toxic contamination** ■ **Non-physical disturbance** ■ **Water quality (run-off / discharge)** ■ **Water quantity (abstraction)**
W7	Waste management operational expectations	Waste Policy	This policy would not result in development because it sets out criteria relating to waste management requirements.	No LSE
Mineral Site Allocations				
M03a	Upper Lyde Quarry	Sand and Gravel	Given distance from European sites there is no potential for direct physical damage or loss, non-toxic contamination or non-physical disturbance. A review of aerial imagery indicates that the site does not share habitat, or ecological connectivity with European sites which would lead to indirect (offsite) physical damage or loss. Main roads associated with the site include A4110 and A49. These roads do not intersect with the River Wye SAC at locations where transition mire occurs (the component of SAC specified in the SIP as being sensitive to air quality) and therefore LSE associated with air quality are considered unlikely. Detailed consideration of the air quality effects are provided in Chapter 4. LSEs to other European sites relating to air pollution have been ruled out on account of distance. The site does not share hydrological connectivity with European sites, and therefore there is no source-pathway-receptor model by which a likely significant effect associated with water quality or quantity could occur.	No LSE
M03c	Land adjacent (east) and north	Sand and Gravel	As per M03a	No LSE

Policy/ Site Ref.	Name	Type	Discussion	Conclusion of Likely Significant Effect (LSE) either alone or in-combination
	east of Upper Lyde Quarry			
M04	Shobdon Quarry	Sand and Gravel	Given distance from European sites there is no potential for direct physical damage or loss, non-toxic contamination or non-physical disturbance. A review of aerial imagery indicates that the site does not share habitat, or ecological connectivity with European sites which would lead to indirect (offsite) physical damage or loss. Main roads associated with the site include A4110 and A44. These roads do not intersect with the River Wye SAC at locations where transition mire occurs (the component of SAC specified in the SIP as being sensitive to air quality) and therefore LSE associated with air quality are considered unlikely. Detailed consideration of the air quality effects are provided in Chapter 4. LSEs to other European sites relating to air pollution have been ruled out on account of distance and connectivity. The site does not share hydrological connectivity with European sites, and therefore there is no source-pathway-receptor model by which a likely significant effect associated with water quality or quantity could occur.	No LSE
M05	Wellington Quarry	Sand and Gravel	Given proximity to River Wye SAC there is potential for minerals workings to result in direct physical damage or loss, both directly to the SAC and indirectly as a result of loss of functionally linked offsite habitat for otter. Given proximity to River Wye SAC there is potential for non-toxic contamination associated with dust production, non-physical disturbance including noise and lighting which may disturb otter. The A49 is the main road associated with the site. This road does not intersect with the River Wye SAC at locations where transition mire occurs (the component of SAC specified in the SIP as being sensitive to air quality) and therefore LSE associated with air quality are considered unlikely. Detailed consideration of the air quality effects are provided in Chapter 4. LSEs to other European sites relating to air pollution have been ruled out on account of distance. Parts of the site share direct hydrological connectivity with the River Wye SAC, and therefore run-off and sediment discharge has the potential to result in LSE via a direct source-pathway-receptor mechanism. Extraction to facilitate site operations may also contribute to low flows in the River Lugg which may affect fish, otter and riparian vegetation as a result of changes in water quantity.	**Yes – Potential for LSE to River Wye SAC due to:** ■ **Physical damage or loss** ■ **Non-toxic contamination** ■ **Non-physical disturbance** ■ **Water quality (run-off / discharge)** ■ **Water quantity (abstraction)**

Policy/ Site Ref.	Name	Type	Discussion	Conclusion of Likely Significant Effect (LSE) either alone or in-combination
			This site does not share direct hydrological connectivity with other European sites, or is located a sufficient distance (e.g. over 35km from Severn Estuary) to enable LSEs to be ruled out. Therefore LSEs associated with water quality and quantity is limited to the River Wye SAC only.	
M07a	Leinthall Quarry	Crushed Rock	Given distance from European sites there is no potential for direct physical damage or loss, non-toxic contamination or non-physical disturbance. A review of aerial imagery indicates that the site does not share habitat, or ecological connectivity with European sites which would lead to indirect (offsite) physical damage or loss. Main roads associated with the site include the A4110. This road does not intersect with the River Wye SAC at locations where transition mire occurs (the component of SAC specified in the SIP as being sensitive to air quality) and therefore LSE associated with air quality are considered unlikely. Where the A4110 connects with the A4113 at Leintewardine, c.5.5km to the north of the site, the road is located 90m to the east of the River Clun SAC. Nevertheless, the SAC is located upstream from this location and is designated for the presence of freshwater pearl mussel which is not considered particularly susceptible to the effects of air pollution. As a result, the potential for LSEs as a result of air pollution from traffic associated with this site has been ruled out. Detailed consideration of the air quality effects are provided in Chapter 4. LSEs to other European sites relating to air pollution have been ruled out on account of distance and connectivity. The site does not share hydrological connectivity with European sites, and therefore there is no source-pathway-receptor model by which a likely significant effect associated with water quality or quantity could occur.	No LSE
M07b	Land west of Leinthall Quarry	Crushed Rock	As per M07a	No LSE
M10a	Perton Quarry	Crushed Rock	Given the distance from European sites (3km to east of River Wye SAC) there is no potential for direct physical damage or loss, non-toxic contamination or non-physical disturbance. A review of aerial imagery indicates that the site does not share habitat, or ecological connectivity with European sites which would lead to indirect (offsite) physical damage or loss. Main roads associated with the site are likely to include the A438. This road does not intersect with the River Wye SAC at locations where transition mire occurs (the component of SAC specified in the SIP as being sensitive to air quality) and therefore LSE associated with air quality are considered unlikely. As a result, the potential for LSEs on the River Wye SAC as a result of air pollution from traffic associated with this site has	No LSE

Policy/ Site Ref.	Name	Type	Discussion	Conclusion of Likely Significant Effect (LSE) either alone or in-combination
			been ruled out. Detailed consideration of the air quality effects are provided in Chapter 4. LSEs to other European sites relating to air pollution have been ruled out on account of distance and a lack of connectivity. The site does not share hydrological connectivity with European sites, and therefore there is no source-pathway-receptor model by which a likely significant effect associated with water quality or quantity could occur.	
M10b	Land north west of Perton Quarry	Crushed Rock	As per M10a	No LSE
M12	Callow Delve	Building Stone	Given the distance from European sites (2.6km to the northwest of the Wye Valley and Forest of Dean Bat Sites SAC, and 3km to northwest of River Wye SAC) there is no potential for direct physical damage or loss, non-toxic contamination (e.g. dust) or non-physical disturbance (e.g. noise, light or vibration) to affect European sites. The site is located 2.6km to the northwest of the Wye Valley and Forest of Dean Bat Sites SAC and has direct functional habitat connectivity with the SAC via a network of woodlands which provide optimal habitat for the horseshoe bat species for which this site is designated. These species rely upon continued connectivity of woodlands and other linear habitat corridors for movement, foraging and commuting. They also frequently utilise caves for hibernating. A review of aerial imagery indicates that the periphery of the site supports woodland habitat which is likely to provide suitable habitat for bat foraging and commuting. Furthermore, old buildings occur in relatively close proximity which may support roosting horseshoe bats, which comprise part of and contribute to the SAC population. In addition, the site is an active open quarry, and whilst due to the active nature of the quarrying activities it is unlikely to support features suitable for roosting or hibernating bats, it is possible that minerals workings could create or reveal suitable features in the future. Precautionary safeguards are recommended to ensure that there is sufficient confidence that activities at the site would avoid harm to horseshoe bat species either through damage to potential future roosting sites, or through habitat severance. This is likely to include a commitment to undertake a project level assessment of the potential effect of site operations on horseshoe bat species as new areas are targeted for mineral workings, and to ensure that the proposed mineral workings do not clear areas of peripheral woodland habitats which may be important in maintaining commuting routes for these species. Following recent case law, such mitigation measures cannot be considered at the screening stage and therefore the potential for LSEs to result in adverse effects on the Wye Valley and Forest of Dean Bat Sites SAC as a result of off-site habitat loss, either alone or in-combination, will require consideration at the Appropriate Assessment stage.	**Yes** **Potential for LSE to River Wye SAC due to:** ■ **Water quality (run-off)** **Potential for LSE to Wye Valley and Forest of Dean Bat Sites SAC due to:** ■ **as a result of off-site physical loss**

Policy/ Site Ref.	Name	Type	Discussion	Conclusion of Likely Significant Effect (LSE) either alone or in-combination
			Main roads associated with the site are likely to include the A466 and the A40. These roads do not intersect with the River Wye SAC at locations where transition mire occurs (the component of SAC specified in the SIP as being sensitive to air quality) and therefore LSE associated with air quality are considered unlikely. As a result, the potential for LSEs on the River Wye SAC as a result of air pollution from traffic associated with this site has been ruled out. Detailed consideration of the air quality effects are provided in Chapter 4. LSEs to other European sites relating to air pollution have been ruled out on account of distance and a lack of connectivity. The western edge of the site is situated immediately adjacent to Mally Brook which discharges into River Wye SAC approximately 3.7km downstream. As a result run-off of chemicals, sediment or contaminated water has the potential to result in Likely Significant Effects on the SAC. This could be avoided with relative ease through a commitment to and implementation of appropriate mitigation safeguards including best practice working methods. However, following recent case law, these cannot be considered at the screening stage and therefore the potential for LSEs to result in adverse effects on the River Wye SAC, either alone or in-combination will require consideration at the Appropriate Assessment stage. The site does not share direct hydrological connectivity with other European sites, and therefore with the exception of the River Wye SAC, there is no source-pathway-receptor model by which a likely significant effect associated with water quality or quantity could occur. The potential for water related effects on the Severn Estuary have been ruled out due to its considerable distance downstream (c30km) at which point any sources of impact would have dissipated.	
M13	Black Hill Delve	Building Stone	Given distance from European sites there is no potential for direct physical damage or loss, non-toxic contamination or non-physical disturbance. A review of aerial imagery indicates that the site does not share habitat, or ecological connectivity with European sites which would lead to indirect (offsite) physical damage or loss. Main roads associated with the site are likely to include the A438 and the A465. These roads do not intersect with the River Wye SAC at locations where transition mire occurs (the component of SAC specified in the SIP as being sensitive to air quality) and therefore LSE associated with air quality are considered unlikely. As a result, the potential for LSEs on the River Wye SAC as a result of air pollution from traffic associated with this site has been ruled out. Detailed consideration of the air quality effects are provided in Chapter 4. LSEs to other European sites relating to air pollution have been ruled out on account of distance and a lack of connectivity. The site does not share hydrological connectivity with European sites, and therefore there is no source-pathway-receptor model by which a likely significant effect associated with water quality or quantity could occur.	No LSE

Policy/ Site Ref.	Name	Type	Discussion	Conclusion of Likely Significant Effect (LSE) either alone or in-combination
M16	Llandraw Delve	Building Stone	As M13	No LSE
M17	Pennsylvani Delves	Building Stone	As M13	No LSE
M18	Sunnybank Delve	Building Stone	As M13	No LSE
M20	Westonhill Wood Delve	Building Stone	The site is located 300m to the south of the River Wye SAC, and therefore there is potential for impacts associated with non-toxic contamination (dust) and non-physical disturbance (noise, light and vibration) to affect the SAC. Nevertheless, the site is separated from the SAC by the B4352 and is enclosed along its northern boundary by a belt of linear broadleaved woodland. As a result, there is negligible potential for factors associated with non-toxic contamination or non-physical disturbance to result in Likely Significant Effects on the River Wye SAC, and these impacts have been ruled out. Main roads associated with the site are likely to include the A438. This road does not intersect with the River Wye SAC at locations where transition mire occurs (the component of SAC specified in the SIP as being sensitive to air quality) and therefore LSE associated with air quality are considered unlikely. As a result, the potential for LSEs on the River Wye SAC as a result of air pollution from traffic associated with this site has been ruled out. Detailed consideration of the air quality effects are provided in Chapter 4. LSEs to other European sites relating to air pollution have been ruled out on account of distance and a lack of connectivity. The site is located 300m upslope from the River Wye SAC and the western edge of the site is situated immediately adjacent to a brook at Merbach which flows directly into the River Wye SAC. As a result run-off of chemicals, sediment or contaminated water has the potential to result in Likely Significant Effects on the SAC. This could be avoided with relative ease through a commitment to and implementation of appropriate mitigation safeguards. However, following recent case law, these cannot be considered at the screening stage and therefore the potential for LSEs to result in adverse effects on the River Wye SAC, either alone or in-combination will require consideration at the Appropriate Assessment stage. The site does not share direct hydrological connectivity with other European sites, and therefore with the exception of the River Wye SAC, there is no source-pathway-receptor model by which a likely significant effect associated with water quality or quantity could occur.	**Yes – Potential for LSE to River Wye SAC due to:** ■ **Water quality (run-off)**

Policy/ Site Ref.	Name	Type	Discussion	Conclusion of Likely Significant Effect (LSE) either alone or in-combination
Area of Search	Area A	Crushed Rock	Given the distance of this area from European sites there is no potential for direct physical damage or loss, non-toxic contamination or non-physical disturbance. This area does not share ecological connectivity with European sites which would lead to indirect physical damage or loss occurring (for example through loss of offsite functionally linked land). Main roads associated with this area include A4110 and A44. These roads do not intersect with the River Wye SAC at locations where transition mire occurs (the component of SAC specified in the SIP as being sensitive to air quality) and therefore LSE associated with air quality are considered unlikely. Detailed consideration of the air quality effects are provided in Chapter 4. LSEs to other European sites relating to air pollution have been ruled out on account of distance and a lack of connectivity with this area. The area does not share hydrological connectivity with European sites, and therefore there is no source-pathway-receptor model by which a likely significant effect associated with water quality or quantity could occur.	No LSE
Area of Search	Area D	Crushed Rock	As per Area A	No LSE
Area of Search	Area B	Sand and Gravel	As per Area A	No LSE
Area of Search	Area C	Sand and Gravel	This area includes much of the River Lugg flood plain, which is a component of the River Wye SAC north of Hereford. There is potential for minerals workings in this area, when in close proximity the River Wye SAC to result in direct physical damage or loss, both directly to the SAC and/or indirectly as a result of loss of functionally linked offsite habitat for otter (e.g. gravel pits and scrub). There is also potential for mineral operations in this area to result in LSEs to the River Wye SAC as a result of non-toxic contamination associated with dust production, and non-physical disturbance including noise and lighting which may disturb otter. The A49 and A4103 are the main roads serving this area. These roads do not intersect with the River Wye SAC at locations where transition mire occurs (the component of SAC specified in the SIP as being sensitive to air quality) and therefore LSE associated with air quality are considered unlikely. Detailed consideration of the air quality effects are provided in Chapter 4. LSEs to other European sites relating to air pollution have been ruled out on account of distance.	**Yes – Potential for LSE to River Wye SAC due to:** ■ **Physical damage or loss** ■ **Non-toxic contamination** ■ **Non-physical disturbance** ■ **Water quality (run-off / discharge)** ■ **Water quantity (abstraction)**

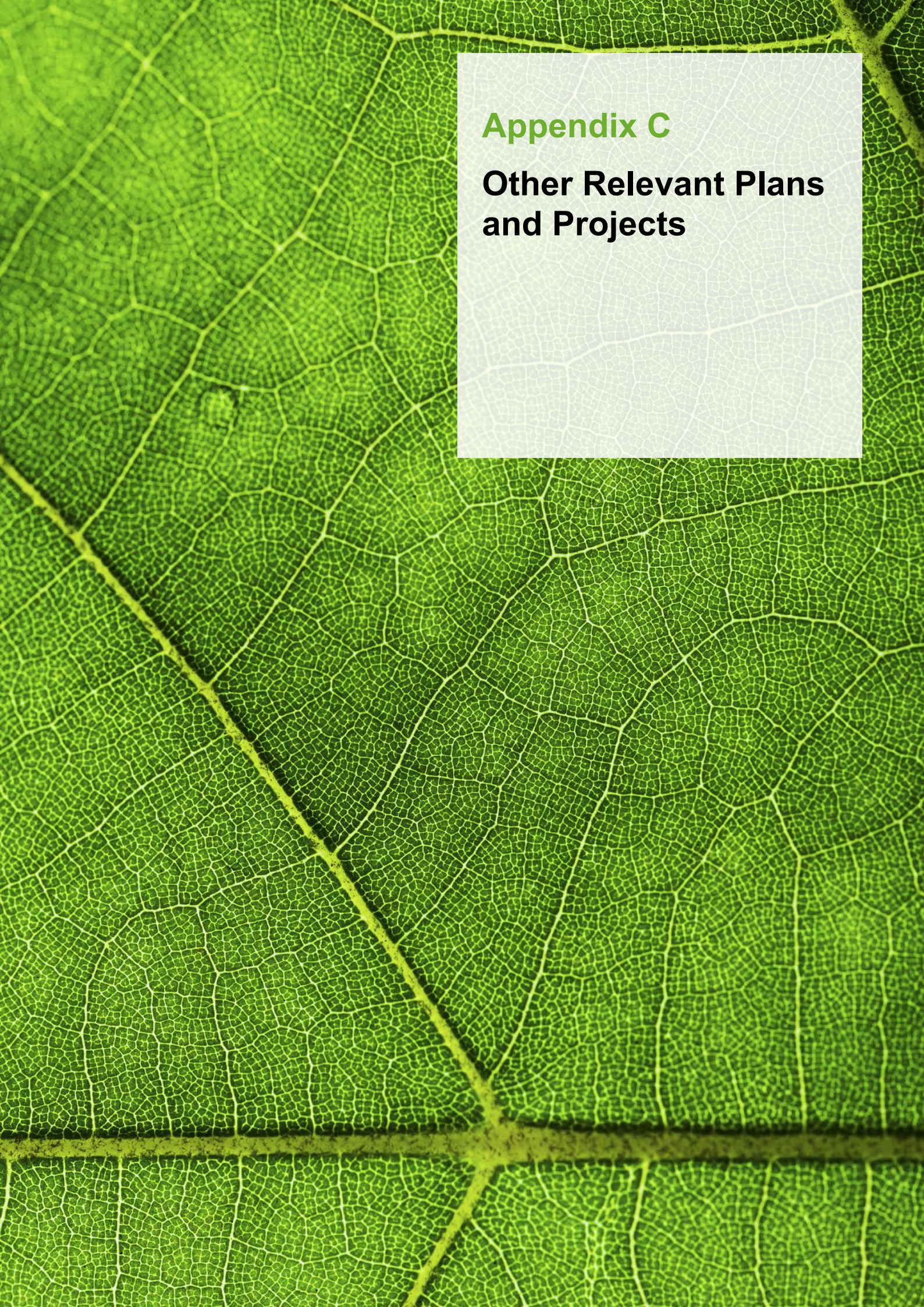
Policy/ Site Ref.	Name	Type	Discussion	Conclusion of Likely Significant Effect (LSE) either alone or in-combination
			Depending on the location and nature of potential minerals workings in this area, site locations may share direct hydrological connectivity with the River Wye SAC, and therefore contaminated run-off and sediment discharge has the potential to result in LSE via source-pathway-receptor mechanisms. Extraction to facilitate site operations may also contribute to low flows in the River Lugg which may affect fish, otter and riparian vegetation as a result of changes in water quantity. This area does not share direct hydrological connectivity with other European sites, or is located a sufficient distance (e.g. over 35km upstream from the Severn Estuary SAC/SPA/Ramsar) to enable LSEs to be ruled out. Therefore LSEs associated with water quality and quantity is limited to the River Wye SAC only.	
Waste Site Allocations				
W05	Leominster HWS and HWRC	Municipal non-hazardous WTS and HWRC	Given distance from European sites there is no potential for direct physical damage or loss, non-toxic contamination or non-physical disturbance. A review of aerial imagery indicates that the site do not share habitat, or ecological connectivity with European sites which would lead to indirect (offsite) physical damage or loss. Main roads associated with the site include A44 and A49. These roads do not intersect with the River Wye SAC at locations where transition mire occurs (the component of SAC specified in the SIP as being sensitive to air quality) and therefore LSE associated with air quality are considered unlikely. Detailed consideration of the air quality effects are provided in Chapter 4. LSEs to other European sites have been ruled out on account of distance. The site does not share hydrological connectivity with European sites, and therefore there is no source-pathway-receptor model by which a likely significant effect could occur.	No LSE
W07	Ledbury HWRC	HWRC	Given distance from European sites there is no potential for direct physical damage or loss, non-toxic contamination or non-physical disturbance. A review of aerial imagery indicates that the site do not share habitat, or ecological connectivity with European sites which would lead to indirect (offsite) physical damage or loss. Main roads associated with the site include A438, A499, and A417. These roads do not intersect with the River Wye SAC at locations where transition mire occurs (the component of SAC specified in the SIP as being sensitive to air quality) and therefore LSE associated with air quality are considered unlikely. Detailed consideration of the air quality effects are provided in Chapter 4. LSEs to other European sites have been ruled out on account of distance.	No LSE

Policy/ Site Ref.	Name	Type	Discussion	Conclusion of Likely Significant Effect (LSE) either alone or in-combination
			The site does not share hydrological connectivity with European sites, and therefore there is no source-pathway-receptor model by which a likely significant effect could occur.	
W10	Kington HWRC	HWRC	Given distance from European sites there is no potential for direct physical damage or loss, non-toxic contamination or non-physical disturbance. A review of aerial imagery indicates that the site do not share habitat, or ecological connectivity with European sites which would lead to indirect (offsite) physical damage or loss. Main roads associated with the site include A44, A480 and A4111. These roads do not intersect with the River Wye SAC at locations where transition mire occurs (the component of SAC specified in the SIP as being sensitive to air quality) and therefore LSE associated with air quality are considered unlikely. Detailed consideration of the air quality effects are provided in Chapter 4. LSEs to other European sites have been ruled out on account of distance. The site does not share hydrological connectivity with European sites, and therefore there is no source-pathway-receptor model by which a likely significant effect could occur.	No LSE
W13	Former Lugg Bridge Quarry	Physical Treatment	The site is a former active quarry located 180m to the east of the River Wye SAC, to the northeast of Hereford. The site is separated from the River Wye SAC by pastoral field and linear belt of woodland and dense scrub. On account of the distance and intervening habitat, there is negligible potential for direct physical damage or loss, non-toxic contamination or non-physical disturbance. A review of aerial imagery indicates that the site do not share habitat, or ecological connectivity with European sites which would lead to indirect (offsite) physical damage or loss. Main roads associated with the site include A465 and the A4103. These roads do not intersect with the River Wye SAC at locations where transition mire occurs (the component of SAC specified in the SIP as being sensitive to air quality) and therefore LSE associated with air quality are considered unlikely. Detailed consideration of the air quality effects are provided in Chapter 4. LSEs to other European sites have been ruled out on account of distance and a lack of functional connectivity. The site does not share hydrological connectivity with European sites, and therefore there is no source-pathway-receptor model by which a likely significant effect could occur.	No LSE
W19	City Spares MRS	Car Breaker	The site is located 850m to the south of the River Wye SAC, at the southern edge of Hereford. The site is separated from the River Wye SAC by an extensive area of urban land use. On account of the distance and intervening habitat, there is negligible potential for direct physical damage or loss, non-toxic contamination or	No LSE

Policy/ Site Ref.	Name	Type	Discussion	Conclusion of Likely Significant Effect (LSE) either alone or in-combination
			non-physical disturbance. A review of aerial imagery indicates that the site do not share habitat, or ecological connectivity with European sites which would lead to indirect (offsite) physical damage or loss. The main road associated with the site is the A49. This road does not intersect with the River Wye SAC at locations where transition mire occurs (the component of SAC specified in the SIP as being sensitive to air quality) and therefore LSE associated with air quality are considered unlikely. Detailed consideration of the air quality effects are provided in Chapter 4. LSEs to other European sites have been ruled out on account of distance and a lack of functional connectivity. The site does not share hydrological connectivity with European sites, and therefore there is no source-pathway-receptor model by which a likely significant effect could occur.	
W43	Upper Lyde Quarry (M03)	Mineral site – inert waste disposal	Given distance from European sites there is no potential for direct physical damage or loss, non-toxic contamination or non-physical disturbance. A review of aerial imagery indicates that the site do not share habitat, or ecological connectivity with European sites which would lead to indirect (offsite) physical damage or loss. Main roads associated with the site include A4110 and A49. These roads do not intersect with the River Wye SAC at locations where transition mire occurs (the component of SAC specified in the SIP as being sensitive to air quality) and therefore LSE associated with air quality are considered unlikely. Detailed consideration of the air quality effects are provided in Chapter 4. LSEs to other European sites have been ruled out on account of distance. The site does not share hydrological connectivity with European sites, and therefore there is no source-pathway-receptor model by which a likely significant effect could occur.	No LSE
W44	Shobdon Quarry (M04)	Mineral site – inert waste disposal	Given distance from European sites there is no potential for direct physical damage or loss, non-toxic contamination or non-physical disturbance. A review of aerial imagery indicates that the site does not share habitat, or ecological connectivity with European sites which would lead to indirect (offsite) physical damage or loss. Main roads associated with the site include A4110 and A44. These roads do not intersect with the River Wye SAC at locations where transition mire occurs (the component of SAC specified in the SIP as being sensitive to air quality) and therefore LSE associated with air quality are considered unlikely. Detailed consideration of the air quality effects are provided in Chapter 4. LSEs to other European sites relating to air pollution have been ruled out on account of distance and connectivity.	No LSE

Policy/ Site Ref.	Name	Type	Discussion	Conclusion of Likely Significant Effect (LSE) either alone or in-combination
			The site does not share hydrological connectivity with European sites, and therefore there is no source-pathway-receptor model by which a likely significant effect could occur.	
W45	Wellington Quarry (M05)	Mineral site – inert waste disposal	Given proximity to River Wye SAC there is potential for minerals workings to result in direct physical damage or loss, both directly to the SAC and indirectly as a result of loss of functionally linked offsite habitat for otter. Given proximity to River Wye SAC there is potential for non-toxic contamination associated with dust from waste disposal, and non-physical disturbance including noise and lighting which may disturb otter. The A49 is the main road associated with the site. This road does not intersect with the River Wye SAC at locations where transition mire occurs (the component of SAC specified in the SIP as being sensitive to air quality) and therefore LSE associated with air quality are considered unlikely. Detailed consideration of the air quality effects are provided in Chapter 4. LSEs to other European sites relating to air pollution have been ruled out on account of distance. The site shares direct hydrological connectivity with the River Wye SAC, and therefore contaminated run-off and sediment discharge has the potential to result in LSE via a direct source-pathway-receptor mechanism. Extraction to facilitate site operations may also contribute to low flows in the River Lugg which may affect fish, otter and riparian vegetation as a result of changes in water quantity. This site does not share direct hydrological connectivity with other European sites, or is located a sufficient distance (e.g. over 35km from Severn Estuary) to enable LSEs to be ruled out. Therefore LSEs associated with water quality and quantity is limited to the River Wye SAC only.	**Yes– Potential for LSE to River Wye SAC due to:** ■ **Physical damage or loss** ■ **Non-toxic contamination (dust)** ■ **Non-physical disturbance (light and noise disturbance)** ■ **Water quality (run-off / discharge)** ■ **Water quantity (abstraction)**
W58	Rotherwas Industrial Estate	Strategic Employment Site	This is an existing industrial estate. A new waste site would be expected to be absorbed into a plot that becomes vacant within the industrial estate, and therefore it would not add any further impacts than what's already taking place on sites of this nature.	No LSE
W59	Westfields Trading Estate	Strategic Employment Site	As per W58	No LSE
W60	Three Elms Trading Estate	Strategic Employment Site	As per W58	No LSE

Policy/ Site Ref.	Name	Type	Discussion	Conclusion of Likely Significant Effect (LSE) either alone or in-combination
W61	Holmer Road, Hereford	Strategic Employment Site	As per W58	No LSE
W62	Leominster Enterprise Park	Strategic Employment Site	As per W58	No LSE
W63	Southern Avenue, Leominster	Strategic Employment Site	As per W58	No LSE
W64	Land between Little Marcle Road and Ross Road, Ledbury	Strategic Employment Site	As per W58	No LSE
W65	Model Farm, Ross-on-Wye	Strategic Employment Site	As per W58	No LSE
W66	Moreton Business Park, Moretonon - Lugg	Strategic Employment Site	As per W58	No LSE



Appendix C

Other Relevant Plans and Projects

Appendix C

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Table C.1: Other relevant plans and projects

Neighbouring Local Plans

Forest of Dean Core Strategy: Adopted Version (2012)

Forest of Dean District lies to the south east of Herefordshire.

Housing: The Core Strategy sets out housing allocations for the settlements within the Forest of Dean up to 2026 as follows:

- Cinderford and Ruspidge Urban Area – around 1,050 new homes
- Lydney – around 1,900 new homes
- Coleford (includes Milkwall, Coalway, Mile End, Berry Hill) – around 650 new homes
- Newent - around 350 new homes
- Tutshill and Sedbury – around 111 new homes
- Bream – around 100 new homes
- Drybrook – around 100 new homes
- Mitcheldean – around 101 new homes
- Newnham – around 65 new homes
- Whitecroft-Pillowell-Yorkley – around 45 new homes
- Lydbrook-Joys Green – around 82 new homes
- Other villages and rural – around 608 new homes

Priority will be given to development on previously developed land and on sites identified for housing in the development plan. No new greenfield sites will be released unless it can be proven that land is not available from other sources and is needed to meet the plan's requirements.

Employment: The Core Strategy sets out employment land allocations for the settlements within the Forest of Dean as follows:

- Cinderford – around 26ha
- Lydney – around 30ha
- Coleford – around 6.8ha
- Newent – around 5ha
- Villages – intensification, redevelopment and diversification will be supported on sites that are well linked to settlements and services.

HRA Findings: HRA for the adopted Core Strategy was undertaken and is reported in Appendix 10 of the SA Report for the Adopted Core Strategy (February 2012). **The HRA screening concluded that the Core Strategy will not result in any significant negative impacts on identified sites**, although there will be a need for HRA Screening, with the possibility of an Appropriate Assessment requirements, at later stages of the planning processes, when development proposals are more detailed. The HRA considered the potential for in-combination effects to arise from the Forest of Dean Core Strategy along with other plans and strategies, and there were three plans where the potential impacts were uncertain (West of England Joint Waste Strategy, Shoreline Management Plan and a New Nuclear power station at Oldbury). In these cases it was concluded that there was insufficient detail at this stage to assess, with any degree of accuracy, the potential impacts and that, proposals will need to assess their in-combination effects with the Core Strategy at their appropriate decision making stages.

South Worcestershire Development Plan: Adopted Version (2016)

Malvern Hills District lies to the east of Herefordshire. The Development Plan DPD has been prepared jointly with the two other South Worcestershire authorities, Worcester City and Wychavon (neither of which adjoin Herefordshire).

Housing: The Development Plan DPD makes provision for 28,400 dwellings (net) during the plan period, to be distributed as follows:

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- Malvern Hills (excluding the Wider Worcester Area) – 5,650
- Wychavon (excluding the Wider Worcester Area) – 10,600
- Wider Worcester Area – 12,150

Employment: The Core Strategy makes provision for about 280ha of employment land during the plan period, to be distributed as follows:

- Malvern Hills (excluding the Wider Worcester Area) – 40ha
- Wychavon (excluding the Wider Worcester Area) – 120ha
- Wider Worcester Area – 120ha

HRA Findings: The HRA (Appropriate Assessment) Report for the South Worcestershire Development Plan Pre-Submission Consultation (November 2012) sets out the findings of both the screening and Appropriate Assessment stages of the HRA. There has been two additional HRA addendum reports since 2012, Habitats Regulations Assessment Addendum Report (September 2014) and Habitats Regulations Assessment Further Addendum Report (September 2015). The 2012 screening assessment concluded that there was uncertainty with regard to the potential for significant effects on Bredon Hill SAC and Lyppard Grange SAC as a result of increased disturbance, in particular from increased recreational activity. The screening assessment also identified uncertainty with regard to the potential for significant in-combination effects on seven European sites as a result of changes water levels and five European sites as a result of changes to water quality. Based on the precautionary approach these issues were progressed through to the AA stage to be considered in more detail. The AA considered the potential for the SWDP to have adverse effects on the integrity of identified European sites through increased disturbance (recreational activity) and reduced water levels and quality. It concluded that the likelihood of proposed development increasing the number of people using Lyppard Grange Ponds SAC is minimal - especially given the much larger areas of open space available for recreation within approximately 300 meters of the site. It therefore concluded that the SWDP will not have adverse effects on the integrity of the Lyppard Grange Ponds SAC through increased disturbance. Considering the location and size of proposed development in relation to Bredon Hill SAC and that recreational activity is not an issue at the site, the AA also concluded that the SWDP will not have adverse effects on the integrity of the SAC either alone or in combination through increased disturbance.

The AA found that the mitigation provided by Pre-Submission policies and current regulatory processes (EA Review of Consents) would ensure that the potential impacts of proposed development on the water environment would be minimised. **It was concluded that the SWDP will not have adverse in combination effects on the integrity of the identified European sites through reduced water levels or water quality.**

The 2014 screening assessment concluded that the key change to the Plan, the increased housing requirement, which has risen from 23,200 to 28,400 dwellings, is not likely to result in any further significant effects that were not considered through the previous HRA work in 2012. The additional site allocations proposed are not in locations that are likely to result in a significant increase in recreational activity at either Bredon Hill SAC or Lyppard Grange SAC. The finding of no adverse effect on the integrity of these sites as a result of increased disturbance is therefore still considered valid. While the increased housing requirement will increase water abstraction and sewerage discharge (consented) it is considered, given the evidence set out in the Water Cycle Study Updated (2014) and the mitigation provided through SWDP policies, regulatory processes (EA Review of Consents) and available at the project level will ensure that there are no adverse in combination effects on European sites as a result of reduced water levels and quality. Overall, **the screening concluded that the proposed Main Modifications do not significantly affect the findings of the HRA (AA) Report published in November 2012**.

The 2015 screening assessment concluded that the proposed Main Modifications do not significantly affect the findings of the previous HRA work and that the conclusion that the SWDP will not have adverse effects on the integrity of European sites either alone or in combination is still valid. Most of the proposed changes are associated with provision of improved clarity and consistency, correcting minor errors, updated information such as planning permissions submitted/granted, and the outcomes of discussions with statutory consultees including the Environment Agency & Historic England.

Shropshire Core Strategy: Adopted Strategy (2011)

Shropshire lies to the north of Herefordshire.

Housing: The Core Strategy sets out how housing development within the county will be phased as follows:

- 2006-2011 – 1,190 dwellings per annum
- 2011-2016 – 1,390 dwellings per annum

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- 2016-2021 – 1,390 dwellings per annum
- 2021-2026 – 1,530 dwellings per annum

Overall, around 27,500 new homes will be delivered up to 2026, and they will be distributed as follows:

- Central Shropshire – 8,250-8,800 dwellings
- North West Shropshire – 5,775-6,325 dwellings
- North East Shropshire – 5,500-6,050 dwellings
- South Shropshire – 3,575-4,125 dwellings
- East Shropshire – 3,025-3,575 dwellings together with additional housing provision of up to 1,000 dwellings, if required, for returning military personnel.

Employment: The Core Strategy states that up to 290 hectares of employment land will be provided in Shropshire up to 2026, to be distributed as follows.

- Central Shropshire – 95-105 hectares employment land, of which 85 – 95 hectares will be in Shrewsbury
- North West Shropshire – 55-65ha
- North East Shropshire – 50-60ha
- South Shropshire – 35-45ha
- East Shropshire – 30-40ha

HRA Findings: The February 2010 Stage 2 Habitats Regulations Assessment Report for the Shropshire Core Strategy **found that the Core Strategy was not likely to have a significant effect on any of the European sites in the county, provided that adequate HRA work is carried out in relation to the Site Allocations and Management of Development DPD**. A number of the Core Strategy policies propose development which has the potential to affect European sites; however the precise location will be determined through the Site Allocations DPD, therefore it was considered to be more appropriate to carry out the full Appropriate Assessment in relation to this development through the HRA of the Site Allocations DPD.

Now that the Core Strategy has been adopted, the Site Allocations and Management of Development (SAMDev) Plan is being progressed and a Stage 3 Habitats Regulations Assessment Report (January 2013) has now been produced in relation to the Draft Consultation Document. That HRA Report has concluded that while six of the SAMDev Draft Development Management Policies could be screened out of the HRA process and do not require further consideration in lower tier plans, 10 of the SAMDev Draft Development Management Policies have been identified as Code C (meaning that they are elements of the plan/options that could or would be likely to have a significant effect alone and will require the plan to be subject to an Appropriate Assessment before the plan may be adopted). However, all 10 policies meet the three criteria for the HRA decision to be passed down to lower tier document. **The HRA of the Site Allocation and Management of Development Local Plan Document known as SAMDev Draft Development Management Policies therefore showed no Likely Significant Effects on any European Sites** provided that HRA decisions for 10 of the draft policies are passed down to the next tier of the plan-making process or in some cases to planning application stage.

Monmouthshire County Council Adopted Local Development Plan 2011-2021 (February 2014)

Monmouthshire lies to the south west of Herefordshire.

Housing: The LDP sets out the spatial approach that is being taken to housing provision in Monmouthshire, with the main focus for new housing development being within or adjoining the Main Towns of Abergavenny, Chepstow and Monmouth. A smaller amount of new housing development is provided in the Severnside sub-region, particularly at Magor/Undy and Caldicot/Portskewett. A small amount of new housing development is also directed to the Rural Secondary Settlements of Usk, Raglan and Penperlleni. Provision will be made to meet a need for around 4,500 residential units in the plan period 2011-2021, to be distributed as follows:

- Abergavenny – 566 new homes
- Chepstow – 675 new homes
- Monmouth – 825 new homes
- Caldicot – 210 new homes

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- Portskewett – 325 new homes
- Magor/Undy – 631 new homes
- Caerwent – 152 new homes
- Rogiet – 53 new homes
- Sudbrook – 244 new homes
- Usk – 53 new homes
- Raglan – 75 new homes
- Penperlleni – 122 new homes
- Llanfoist – 245 new homes

Seven strategic housing sites are identified at Abergavenny (Deri Road, Mardy), Caldicot/Portskewett (Crick Road, Portskewett), Chepstow (Land at Fairfield Mabey, Chepstow), Monmouth (Land at Wonastow Road, Monmouth), Magor/Undy (Rockfield Farm, Undy and Land at Vinegar Hill, Undy) and Sudbrook (Former Paper Mill, Sudbrook).

Employment: The Draft Deposit LDP makes provision for employment land including:

- 37ha at Magor suitable for employment development of regional or sub regional significance.
- Around 5-6ha at each of the Main Towns of Abergavenny (Llanfoist), Chepstow and Monmouth.

HRA Findings: The October 2012 HRA Report for the LDP describes the screening and Appropriate Assessment work that was undertaken. The screening assessment concluded that the Deposit LDP (including site allocations) would not have Likely Significant Effects alone on European sites, if the recommended policy safeguards are incorporated into the Plan. These changes were incorporated into the LDP, and the SA and HRA Changes Log recognised this and reached a final conclusion of no Likely Significant Effects on European sites.

The screening work identified four main areas of impact arising that may have the potential for significant in combination effects on the integrity of the identified European sites: water resources, water quality, disturbance (including habitat loss and fragmentation) and air quality. These issues were taken forward into the AA and considered in further detail. The AA assessed that there is uncertainty with regard to the potential adverse impacts of the LDP acting in combination with surrounding plans and projects. To address this uncertainty the AA proposed a number of mitigation measures, including recommendations to strengthen the mitigation provided by certain LDP policies. **The AA concluded that the LDP will not have adverse effects on the integrity of European sites as the recommended mitigation measures have been incorporated into the Plan.**

The AA conclusions were revisited in the **February 2014 HRA Addendum**, which took into account the changes made in the final version of the LDP. It did not change the conclusions of the 2012 HRA Report and **concluded that the LDP will still not have adverse effects on the integrity of European sites**.

The Monmouthshire Local Development Plan (LDP) 2011-2021 was adopted on 27 February 2014 and became operative on this date.

Powys Local Development Plan 2011-2026: Adopted Version (April 2018)

Powys lies to the west of Herefordshire.

Housing: The Local Development Plan sets out a projected increase in housing which would see the development of 4,600 new homes over the Plan period seeing an average increase of 300 dwellings per annum. In planning to deliver this dwelling requirement, the LDP also includes a flexibility allowance for sites that may not be developed in the plan period. An additional contingency has therefore been added. Consequently the plan makes provision for 5,588 dwellings in order to meet the dwelling requirement of 4,500 dwellings (300 p.a.).

Employment: To meet employment needs over the Plan period 2011-2026, and to maximise the opportunities presented by Local Growth Zones and other regeneration initiatives, the LDP identifies 45 ha for employment purposes, which equates to 3.3 ha per annum.

The Assessment Study also highlighted a high level of business start-ups, self- employment and micro and small businesses which emphasises that Powys' employment growth and needs cannot be accommodated solely on allocated employment sites as such provision caters primarily for larger scale employment development. Therefore, alongside the allocation of

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employment land, policies are included in the LDP to facilitate small scale employment development to support new and existing businesses. **HRA Findings:** The Draft HRA Report for the Pre-Deposit Proposals (March 2012) took a precautionary approach and highlighted the potential for Powys' LDP to adversely affect the integrity of 28 European Sites, either alone or in-combination with other plans or projects. However, due to the early stage of the Plan, these effects were uncertain in all cases. The screening process also highlighted the potential for in-combination effects with other plans, including from Herefordshire's Core Strategy in relation to pollution from adjacent road drains/houses/chemicals, development (engineering/contamination) and recreation and leisure. In order to ensure that Powys' LDP does not have a significant negative effect, detailed policies need to be developed to mitigate the 'in-combination' effect of development on the identified sites. The deposit proposals will be assessed and if necessary AA will be undertaken to inform the deposit plan, which is currently due to be consulted on in June 2014. The 2018 HRA: Screening of the Inspector's Matters Arising Changes report concluded that further HRA screening was not necessary. The changes proposed were not considered to be significant and served to clarify or enhance the policy guidance set out by the Plan. HRA Screening of the new Policy RE1 as proposed by IMAC 5, has **determined that the new policy would not result in a Likely Significant Effect to any European Sites (SAC, SPA, Ramsar Sites) or their associated features, either alone or in combination with other Plans or projects**. The 2018 LDP Plan has not changed since the final screening.
Brecon Beacons Local Development Plan: Adopted Version (December 2013)
The Brecon Beacons National Park lies to the west of Herefordshire. **Housing:** The LDP has identified a supply of land to provide an estimated 2,045 dwellings over the LDP period. Land is allocated for 960 dwellings with 96 to be provided at Brecon, 102 at the key settlements (Crickhowell, Hay-on-Wye and Talgarth), 234 at the Level 3 settlements (Bwlch, Gilwern, Libanus, Llanbedr, Llanigon, Llanspyddid and Pennorth). A further 70 will be provided at a site near Glangrwyney. **Employment:** The identified requirement for employment land within the Brecon Beacons National Park over the LDP period is 1.5ha. This requirement is to be met through the development of employment and mixed use allocations for B Class purposes. A number of employment site allocations are made at Brecon and Talgarth as well as two existing brownfield sites. **HRA Findings:** The Sustainability Appraisal Report for the LDP (November 2013) includes a section describing the work that has been undertaken on the Habitats Regulations Assessment throughout the preparation of the LDP and states that the screening exercise concluded that there would be no Likely Significant Effects on European sites. **Therefore, in-combination effects with the Herefordshire Core Strategy are not considered likely.** In accordance with the requirement of Section 69 of the 2004 Planning and Compulsory Purchase Act, on 17 December 2017, the Authority commenced the Review of its LDP. The 2007-2022 Plan was adopted by the Brecon Beacons National Park Authority on 17 December 2013. The Delivery Agreement (June 2018) is incorporating its project plan and its policy for involving the community in revision of the LDP.