



**Forest of Dean District Council (FoDDC)
Local Plan Review 2021-2041:
Regulation 18 Draft**

**Habitats Regulations Assessment (HRA)
Screening & Appropriate Assessment (AA)
Report**

June 2024

enfusion



Forest of Dean Local Plan 2021-2041: Regulation 18 Draft Habitats Regulations Assessment (HRA): HRA Screening & Appropriate Assessment (AA) Report

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CONTENTS	
1.0 Introduction	
Habitats Regulations Assessment (HRA) & Appropriate Assessment (AA)	1
The Forest of Dean Local Plan Review 2021-2041	2
The Scope of this HRA	2
Consultation	5
2.0 Approach & Method	
Guidance & Approach	6
Methods Stages 1-3	8
Likely Significant Effects (LSEs)	8
Potential Types of Impacts of Local Plans on Sites	9
In-Combination Effects	10
3.0 Designated Sites for Nature Conservation: Characterisation	
Introduction	11
Cotswold Beechwoods SAC	12
River Wye SAC	12
Severn Estuary SAC/SPA/Ramsar	15
Walmore Common SAC	17
Wye Valley & Forest of Dean Bats SAC	17
Wye Valley Woodlands SAC	19
4.0 Identified Potential Impact Pathways & Screening for Likely Significant Effects (LSEs)	
Atmospheric Pollution (Nitrogen Deposition & Dust)	21
Loss or Damage to Habitats, Functionally Linked Land	23
Disturbance from Noise, Vibration or Light to Sensitive Species	26
Recreational Pressures	27
Changes to Water Quality or Water Quantity/Levels/Flow	28
Summary of Screening & Potential LSEs	30
Screening of FDLP Policies	30
5.0 Appropriate Assessment	
Introduction	32
Atmospheric Pollution (Nitrogen Deposition & Dust)	34
Loss or Damage to Habitats, Functionally Linked Land	37
Disturbance from Noise, Vibration or Light to Sensitive Species	46
Recreational Pressures	47
Changes to Water Quality or Water Quantity/Levels/Flow	55
6.0 & Recommendations & Conclusions	62
Appendix 1: HRA Screening of draft FDLP Policies	

1.0 INTRODUCTION

Habitats Regulations Assessment (HRA) & Appropriate Assessment (AA)

- 1.1 Habitats Regulations Assessment (HRA)¹ refers to assessments that must be undertaken in accordance with the Habitats Regulations (2017)² to determine if a plan or project may affect the protected features of a habitats site. The aim of the HRA process is to assess the potential effects arising from a plan or project against the nature conservation objectives of any site designated for its nature conservation importance.
- 1.2 The Habitats Regulations transpose the requirements of the European Union (EU) Directive (92/43/EEC) on the Conservation of Natural Habitats and Wild Flora and Fauna [the Habitats Directive] which aims to protect habitats and species of European nature conservation importance. The Directive establishes a network of internationally important sites designated for their ecological status. These are referred to as European Sites and comprise Special Areas of Conservation (SACs) and Special Protection Areas (SPAs)³. The UK Government also requires that Ramsar sites⁴ that support internationally important wetland habitats are included within the HRA process – and as required by the Regulations. The relevant designated sites will be referred to as habitats sites in this HRA (as used in Government guidance on undertaking HRA).
- 1.3 The UK left the EU on 31 January 2020, and whilst the UK is no longer a member of the EU, a requirement for HRA will continue as set out in the Conservation of Habitats & Species (Amendment)(EU Exit) Regulations (2019)⁵. These are amendments, they do not replace the HRA Regulations (2017).
- 1.4 The initial screening stage of the HRA process considers if the potential impacts arising as a result of the plan or project are likely to have a significant effect on these sites either alone or in combination with other plans and projects. Where the potential for likely significant effects (LSEs) cannot be excluded, a competent authority⁶ must make an appropriate assessment of the implications of the plan or project for that site, in view of the site's conservation objectives.
- 1.5 UK Guidance advises that the scope and content of an appropriate assessment will depend on the nature, location, duration and scale of the proposed plan or project and the interest features of the relevant site. The term "appropriate" indicates that the assessment needs to be proportionate and sufficient to support the competent authority in determining whether the

¹ <https://www.gov.uk/guidance/appropriate-assessment>

² [Conservation of Habitats & Species Regulations 2017 \(as amended\)](#)

³ Designated under European Directive (2009/147/EC) on the conservation of wild birds [the Birds Directive]

⁴ Listed under the Convention on Wetlands of International Importance [Ramsar Convention]

⁵ <https://www.legislation.gov.uk/uksi/2019/579/contents/made>

⁶ For example, a local authority, including a district council – such as the Forest of Dean DC

plan or project will adversely affect the integrity of the site. Where an adverse effect on a site's integrity cannot be ruled out, and there are no alternative solutions, the plan or project can only proceed if there are imperative reasons of overriding public interest and if the necessary compensatory measures can be secured.

- 1.6 The process of HRA is based on the precautionary principle, and where there is uncertainty, the risk or possibility for effects should be assumed. A competent authority must consult the relevant statutory nature conservation regulatory body (for FDDC - Natural England in England & Natural Resources Wales) for the purposes of the assessment and must have regard to any representations that the statutory body may wish to make.
- 1.7 Whilst the UK has left the EU and there have been various changes to legislation, the requirement for HRA/AA of Local Plans⁷ and Government planning policy guidance⁸ remain unchanged.

Forest of Dean District Local Plan (LP) Review 2021-2041

- 1.8 The Forest of Dean District Council (FDDC) is preparing a review of the Local Plan 2021-2041⁹. The initial stages of plan-making were developed with public consultation through issues and options in 2019, a preferred option in 2020, and through to a second preferred option in 2022. A revised Local Plan strategy has now been developed – taking into account various evidence studies, the feedback from consultation, and the findings of Sustainability Appraisal¹⁰. This draft Local Plan (Regulation 18) will be published for consultation in 2024. Comments received will be taken in to account in preparing the publication version of the plan (Regulation 19) and this will be available for formal consultation anticipated to be in Spring 2025.
- 1.9 The draft FDLP comprises - Preface; Context with Vision & Objectives; Core Policies & Strategy including for Sustainability & Climate Change; LP Policies organised within themes – Sustainability & Climate Change; Built, Natural & Historic Environment; Housing & Community; and Economy. A final section addresses Monitoring.

The Scope of this HRA

- 1.10 The Forest of Dean District Council (FDDC) has commissioned independent specialist assessors Enfusion Ltd to undertake the HRA on behalf of the District Council. There is no prescriptive requirement for the geographical scope of an HRA of a local plan. Current guidance and common HRA practice in England suggests that European sites (and Ramsar sites) should be included, as follows:

⁷ Conservation of Habitats and Species Regulations 2017

⁸ <https://www.gov.uk/guidance/appropriate-assessment>

⁹ <https://www.fdean.gov.uk/planning-and-building/planning-policy/developing-our-new-local-plan/>

¹⁰ <https://www.fdean.gov.uk/planning-and-building/planning-policy/sustainability-appraisal/>

- All European sites within the boundary of the local plan area
- European sites within a 15km radius of the local plan boundary
- Other European sites shown to be potentially linked to proposed development in the LP area through an environmental pathway (such as a watercourse) – essentially, the route by which a development plan policy/proposal could lead to a significant effect on a Habitats site

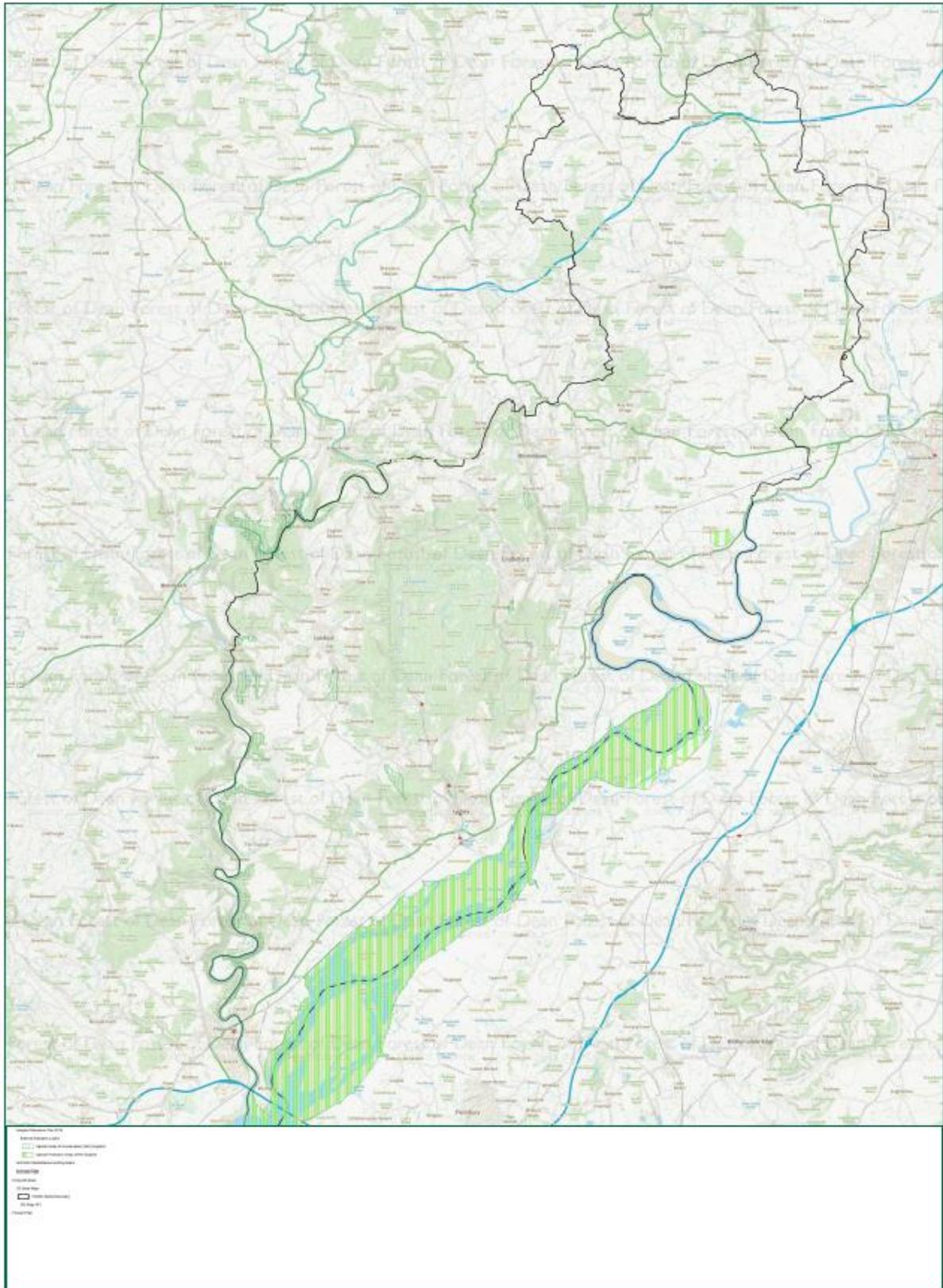
1.11 The adopted Forest of Dean LP (Core Strategy, 2015 & Site Allocations Plan, 2018) was subject to HRA¹¹ according to guidance and good practice at the time. The HRA screening process identified five habitats sites to be included in the scope of the HRA. Established HRA practice at the time considered a 20 km radius from the LP area to identify sites that should be investigated. The previous HRA of the adopted FDLP screened and assessed five sites. HRA practice has developed since then, including guidance provided by court judgements and information from research studies. This is particularly associated with when mitigation measures are considered in the staged method, and the significance of recreational and transport impacts.

1.12 Taking into account the previous HRA, changes in guidance and method, and current good practice, it is considered that the scope of the Forest of Dean should include sites (five previously assessed plus the Cotswold Beechwoods SAC), as follows:

- The Cotswold Beechwoods SAC
- The Severn Estuary SAC/SPA/Ramsar
- The River Wye SAC
- The Walmore Common SPA/Ramsar
- The Wye Valley & Forest of Dean Bat Sites SAC
- The Wye Valley Woodlands SAC

The location of the designated sites is shown on the map following and may be found through the Defra Magic Map website <https://magic.defra.gov.uk/>.

¹¹ <https://www.fdean.gov.uk/planning-and-building/planning-policy/our-current-local-plan/local-plan-evidence-base/>



FoDDC - Ramsar, SAC & SPA sites

Scale: 1:50,000
28 May 2024



- 1.13 Natural Resources Wales (NRW) is the nature conservation statutory body in Wales, and needs to be consulted in respect of the Severn Estuary SAC/SPA/Ramsar, the three River Wye SACs, and the Wye Valley & FoD Bats and Wye Valley Woodlands SACs . Considerable HRA work was done for the preparation of the current FDLP (2018) and it is not necessary to duplicate or repeat this work. The overall approach to this HRA is to build upon the previous work - updating the assessment according to case law, current guidance and good practice, and new evidence.

Consultation

- 1.14 The Habitats Regulations require the plan-making or competent authority (FDDC) to consult the appropriate nature conservation statutory body – for England, Natural England (NE) and Natural Resources Wales (NRW). The Habitats Regulations leave consultation with other bodies and the public to the discretion of the plan making authority. For the HRA of the FDLP, the FDDC will also consult with the Environment Agency (EA) due to the presence of qualifying features for migratory fish such as Lampreys and Shad, and Eels. This HRA Report will be sent to the environmental consultation bodies (Natural England, Natural Resources Wales & Environment Agency) during the Regulation 18 consultation on the draft Forest of Dean Local Plan, and placed on the Council's website for public consultation.

2.0 APPROACH & METHODS

Guidance & Approach

- 2.1 Initial guidance for HRA was published by the Government¹² based on the European Commission's (2001) guidance for the Appropriate Assessment (AA) of Plans, and recommends three main stages to the HRA process:
- Stage 1: Screening for Likely Significant Effect (LSEs)
 - Stage 2: Appropriate Assessment, Ascertainning Effects on Integrity
 - Stage 3: Mitigation Measures and Alternatives Assessment
- 2.2 Subsequently, the nature conservation statutory body Natural England produced detailed guidance (DTA, 2009)¹³ on the HRA of development planning documents that built on assessment experience and relevant court rulings. However, this remained in draft format and is not available on the Natural England website. The guidance was further developed into The HRA Handbook (DTA, 2013) and is now kept updated online through a subscription service¹⁴.
- 2.3 A High Court Judgment in 2017 provided clarification with regard to interpretation of air quality assessment guidance¹⁵ on HRA in-combination relating to industrial installations and emissions to air, and the Design Manual for Roads & Bridges (DMRB) guidance on environmental assessment including implications for habitats sites. As a result of this Judgment, Natural England developed internal guidance¹⁶ in 2018 and advises that usually only those Habitats Sites present within 200m of the edge of a road on which a plan or project will generate traffic will need to be considered when checking for LSEs from road traffic emissions with regard to HRAs. The DMRB was updated in 2020¹⁷.
- 2.4 In 2018, the Court of Justice of the European Union (CJEU) issued a judgment¹⁸ that provided clarification regarding the application of mitigation measures. The implication of this judgment is that competent authorities cannot take account of any avoidance or reduction measures when considering at the HRA screening stage whether a plan is likely to have an adverse effect on a European Site – and as had been the standard approach applied in the UK. A second judgment (Sweetman II) was issued later in 2018 and provided further clarification on the interpretation of mitigation measures.

¹² DCLG, 2006, Planning for the Protection of European Sites: Appropriate Assessment

¹³ Tyldesley, D., 2009, The Habitats Regulations Assessment of Local Development Documents (Natural England)

¹⁴ <https://www.dtapublications.co.uk/handbooks>

¹⁵ <https://www.gov.uk/government/publications/tag-unit-a3-environmental-impact-appraisal>

¹⁶ NE Internal Guidance – Approach to advising competent authorities on Road Traffic Emissions and HRAs (June 2018) (NEAA001)

¹⁷ <https://nationalhighways.co.uk/suppliers/design-standards-and-specifications/design-manual-for-roads-and-bridges-dmrb/>

¹⁸ People over Wind & Sweetman v Coillte Teoranta Case C-323/17

- 2.5 In March 2022, Natural England wrote to a number of planning authorities regarding certain river catchments protected under habitats law that are considered to be in unfavourable condition due to exceeded nutrient threshold. Such excess nitrogen and phosphorus in the water meant that new development proposals should only be approved where they would not cause additional pollution, ie neutral effects – and resulting in housing developments being held up in certain areas. The Planning Advisory Service (PAS) has provided a legal briefing (2023)¹⁹ on HRA and this situation for local authorities.
- 2.6 This HRA has been undertaken with consideration of these legal rulings and briefing, together with updated UK Government guidance on appropriate assessment (2019)²⁰. It has also taken into account guidance for competent authorities on how to decide if a plan or project proposal that affects a habitats site can go ahead (2021, updated 2023)²¹. This HRA seeks to be proportionate and sufficient to support the Council in determining if the draft plan is likely to have any significant effects on the integrity of habitats sites. The statutory bodies – Environment Agency, Natural England & Natural Resources Wales – have been consulted during the early stages of plan-making.
- 2.7 This HRA is an assessment of a plan level document - with a relevant and proportionate scope. At the next stage of the planning process, there may be project level HRAs required for development proposals through the development management/consenting process - and these will have a more specific detailed scope. It is important that any assessment is not done in any more detail, or using more resources, than is useful for its purpose. Both plan-making and assessment processes are tiered and iterative processes with more details considered at later stages. At the plan level, the HRA seeks to resolve as much uncertainty as possible and to establish an enforceable framework through which risks of adverse effects to the integrity of habitats sites are avoided or mitigated.
- 2.8 The habitats sites are underpinned by Sites of Special Scientific Interest (SSSIs) with information on condition and management of habitats. Natural England developed Impact Risk Zones (IRZs) as a tool to make an initial assessment of the potential risks to SSSIs posed by development proposals; the user guidance has been recently updated (March 2023)²². They define zones around each SSSI which reflect the particular sensitivities of the features for which it is notified and indicate the types of development proposal which could potentially have adverse impacts. The IRZs also cover the interest features and sensitivities of habitats sites, which are underpinned by the SSSI designation and "Compensation Sites", which have been secured as compensation for impacts on European/Ramsar sites. IRZs and SSSI conditions will be taken into account in screening and appropriate assessment.

¹⁹ <https://www.local.gov.uk/pas/topics/environment/nutrient-neutrality-and-planning-system/habitats-regulations-advice-lpas>

²⁰ <https://www.gov.uk/guidance/appropriate-assessment>

²¹ <https://www.gov.uk/guidance/habitats-regulations-assessments-protecting-a-european-site>

²² https://magic.defra.gov.uk/metadata_for_magic/sssi%20irz%20user%20guidance%20magic.pdf

Methods

- 2.9 **Stage 1: Screening for Likely Significant Effects (LSEs):** Building upon the previous HRA work and updating it with new evidence, a high-level initial assessment has been undertaken to decide whether any appropriate assessment is required. This stage aims to separate out any policies or allocations of the draft plan for which it can be concluded that they are unlikely to result in any LSEs on Habitats Sites. This is usually because they are not relevant or there is no mechanism for negative effects – no pathway for impacts. This stage considers other plans that might interact with the FDLP such that there could be implications for in-combination effects.
- 2.10 **Stage 2: Appropriate Assessment:** For those elements of the plan where it is determined that a conclusion of no LSEs cannot be drawn, the assessment progresses to this next stage. Appropriate assessment is not a technical term and there are no particular analyses that need to be undertaken. Rather, the assessment progresses in more detail and in particular, to investigate if there are any available mitigation measures that would avoid or minimise any potential adverse effects.
- 2.11 For many local plan policies, there are limits to the extent of assessment that is possible at the plan level. A policy may not contain any specific details as to what will be delivered or where, and so it cannot be assessed in detail at the plan level. The precise nature and significance of potential impacts (for example, visual or noise disturbance, loss of functionally linked habitat) are related to how a specific development may be designed and constructed. Therefore, the approach for the assessment is to focus on available mitigation measures (achievable, deliverable and effective), and to ascertain that there is an adequate protective framework to ensure that such policies would not lead to any adverse effects on the integrity of the relevant protected sites.
- 2.12 The recent PAS guidance on HRA confirms that the only mitigation measures that can be taken into account are those *“that are protective or preventative, meaning that they avoid direct damage in the first place.”* Compensatory measures, *“which offset or compensate for damage that will be caused, cannot be taken into account”*.
- 2.13 **Stage 3: Derogation:** A further stage that may be applied if adverse impacts remain having taken into consideration mitigation measures. It is necessary to demonstrate that there are no alternatives and to identify *“imperative reasons of overriding public interest”* (IROPI) and potential compensatory measures. Such an exemption is very complex and to be avoided, if possible.

Likely Significant Effects (LSEs)

- 2.14 A conclusion of no significant effect will only be reached where it is considered unlikely, based on available information and current knowledge that a local plan policy or proposal would have significant effects on the integrity of a habitats site. The integrity of a site depends upon it being able

to sustain its qualifying features (Annex I habitats & bird populations, and Annex II species) for which it has been designated.

- 2.15 A plan, alone or in combination with other plans/proposals, could cause a significant effect²³ on a habitats site if there is:
- a reduction in the amount or quality of designated habitats or the habitats that support designated species
 - a limit to the potential for restoring designated habitats in the future
 - a significant disturbance to the designated species
 - disruption to the natural processes that support the site's designated features
- 2.16 The potential for some LSEs can be determined on a proximity basis, for example, nitrogen deposition from vehicle emissions. For other potential LSEs, distances will vary and be associated with other factors, such as hydrological connectivity, and/or functionally linked land beyond the boundary of the designated site and important for bird or bat populations.

Potential Types of Impacts of the Local Plan on Protected Sites

- 2.17 Good practice experience and case law in the UK has helped identify the types of impacts that are related to certain types of plans. The type of development and associated activities that are permitted by Local Plans only have the potential to result in certain types of impacts that could affect habitats sites, as follows:
- **Atmospheric Nitrogen** from increases in traffic volumes on roads close to sensitive habitats
 - **Loss or Damage to Habitats** through physical activities within the designated sites themselves or at functionally linked sites. For example, a woodland that helps to support a designated species from a nearby habitats site; wetlands used as food sources for designated bird species; habitat resources for food or breeding for bat species
 - **Disturbance from Noise, Vibration or Light** from construction or development in close proximity to sensitive species
 - **Recreational Pressures** due to local population growth - such as from dog-walking, predation by pets, cycling, trampling (including soil/path erosion), littering, and/or fire
 - **Changes in Water Quality or Water Quantity**, including pollution through increased nutrient loading (Nitrogen & Phosphorus) from increased sewage discharge, or changes in flow/levels caused by increased abstraction for water supply
- 2.18 It is necessary for the HRA to reach a conclusion as to whether or not the Local Plan Review would adversely affect the integrity of a habitats site. UK

²³ <https://www.gov.uk/guidance/habitats-regulations-assessments-protecting-a-european-site>

Government guidance²⁴ advises that integrity of the site will be adversely affected if a proposal could, for example:

- destroy, damage or significantly change all or part of a designated habitat
- significantly disturb the population of a designated species, for example, its breeding birds or hibernating bats
- harm the site's ecological connectivity with the wider landscape, for example, harm a woodland that helps to support the designated species from a nearby habitats site
- harm the site's ecological function, or its ability to survive damage, and reduce its ability to support a designated species
- change the site's physical environment, for example, by changing the chemical makeup of its soil, increasing the risk of pollution or changing the site's hydrology
- restrict access to resources outside the site that are important to a designated species, for example, food sources or breeding grounds
- prevent or disrupt restoration work, or the potential for future restoration, if it undermines the site's conservation objectives

In-Combination Effects

- 2.19 The Habitats Regulations require that a plan or project will not adversely affect the integrity of a Habitats site – “*either alone or in combination with other plans or project*”. This recognises that an individual plan may have insignificant effects but there may be cumulative effects with other plans. Therefore, the approach to screening seeks to exclude the risk of any LSEs – and in accordance with the precautionary principle. If impact pathways are found to exist for a particular effect but that this is not likely to be significant from the emerging FDLPR alone, then other plans that could result in the same impact will be considered for potential in-combination effects. The relevant plans are likely to be development plans from adjacent local planning authority (LPA) areas – Monmouthshire and Herefordshire counties, Gloucester, Cheltenham & Tewkesbury Strategic Local Plan, and district councils for Stroud, South Gloucestershire and the City of Bristol.
- 2.20 It may be noted that many of the impact pathways are already studied and planned with regard to cumulative/in-combination effects that consider relevant boundaries, ecosystem characteristics, and zones of influence. For example, water quality and water quantity are planned and managed according to river basin managements. Visitor surveys to inform recreational capacities and management plans consider numbers of people and transport modes, including from other LPAs. Atmospheric pollution impacts may be modelled using traffic flows from various adjoining LPA areas. This HRA draws upon and takes into consideration the findings from the HRAs undertaken of any nearby plans, as relevant.

²⁴ <https://www.gov.uk/guidance/habitats-regulations-assessments-protecting-a-european-site>

3.0 DESIGNATED SITES FOR NATURE CONSERVATION: CHARACTERISATION

Introduction

- 3.1 It is considered that there are six European/internationally designated sites²⁵ for nature conservation that need to be scoped into the screening of the draft FDLP for Likely Significant Effects (LSEs) and any requirement for subsequent appropriate assessment (AA), as follows:
- The Cotswold Beechwoods SAC located approximately 14 km²⁶ to the north-east of the District and beyond the Gloucester conurbation
 - The Severn Estuary SAC/SPA/Ramsar is located along the District boundary in the east and south-east – cross border site with Wales
 - The River Wye SAC is a cross-border site comprising part of the boundary between England and Wales; the lower reaches form the administrative boundary in the south-west for the Forest of Dean District area
 - The Walmore Common Special Protection Area (SPA)/Ramsar site is located on the edge of the District boundary in the north-east
 - The Wye Valley & Forest of Dean Bat Sites Special Area of Conservation (SAC) includes numerous sites throughout the District area – cross border
 - The Wye Valley Woodlands SAC comprises numerous small sites and is located along the western boundary of the District aligned with the River Wye – cross border
- 3.2 The **Conservation Objectives**²⁷ are generally the same for European sites and comprise all or relevant elements of the following - to ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the Favourable Conservation Status of its Qualifying Features, by maintaining or restoring:
- The extent and distribution of qualifying natural habitats and habitats of qualifying species
 - The structure and function (including typical species) of qualifying natural habitats
 - The structure and function of the habitats of qualifying species
 - The supporting processes on which qualifying natural habitats and habitats of qualifying species rely
 - The populations of qualifying species, and,
 - The distribution of qualifying species within the site

²⁵ Distances measured using Magic Map (Defra) application <https://magic.defra.gov.uk/magicmap.aspx>

²⁶ Estimated from FDDC boundary using Defra Magic Map <https://magic.defra.gov.uk/MagicMap.aspx>

²⁷ <https://sac.incc.gov.uk/site/UK>

- 3.3 The characteristics and priority issues, pressures/threats, for the European sites are summarised²⁸, and set out in the following paragraphs of this section of the HRA report.

Cotswold Beechwoods SAC

- 3.4 The Cotswold Beechwoods²⁹: represent the most westerly extensive blocks of *Asperulo-Fagetum* beech forests in the UK. The woods are floristically richer than the Chilterns, and rare plants include red helleborine *Cephalanthera rubra*, stinking hellebore *Helleborus foetidus*, narrow-lipped helleborine *Epipactis ptochila* and wood barley *Hordelymus europaeus*. There is a rich mollusc fauna. The woods are structurally varied, including blocks of high forest and some areas of remnant beech coppice. The Annex I habitats that are the primary reason for selection of this site are *Asperulo-Fagetum* beech forests.
- 3.5 The Site Improvement Plan³⁰ identifies priority issues relating to threats from invasive species, deer, disease, public access/disturbance, and changes in species distributions. Air pollution with the impacts of atmospheric nitrogen deposition is a pressure.
- 3.6 The key threats to the Cotswold Beechwood SAC from recreational pressures and air pollution from traffic were identified during studies associated with the preparation of new development plans with significant housing growth for Gloucester, Cheltenham, Tewkesbury, Cotswold, and Stroud Councils. A collaborative approach was required to address adverse impacts – alone and in-combination. A long-term Strategy (2022)³¹ for mitigating LSEs has been developed and agreed. The Strategy applies to a zone of influence of 15.4 km from the SAC and this is to the centre line of the Estuary that comprises the administrative boundary of FDDC, such that the FDDC area is outside of the identified zone of influence.

River Wye SAC

- 3.7 The River Wye SAC³², located on the border between England and Wales, covers 250km of relatively natural and unmodified main river. This large river of plain to montane levels has a geologically mixed catchment, including shales and sandstones. There is a clear transition between the upland reaches, with characteristic bryophyte-dominated vegetation, and the lower reaches with extensive water crowfoot *Ranunculus* beds. There is an exceptional range of aquatic flora in the catchment including river jelly-lichen. The river channel is

²⁸ Data from JNCC <https://jncc.gov.uk/our-work/special-areas-of-conservation-overview/> and Natural England <http://publications.naturalengland.org.uk/publication/>

²⁹ <https://publications.naturalengland.org.uk/publication/6200815333146624>

³⁰ <https://publications.naturalengland.org.uk/publication/6276086220455936>

³¹ For Stroud DC, Cheltenham BC, Cotswold DC, Gloucester CC, Stroud DC, Tewkesbury DC – Liley D & Panter C 2022. Cotswold Beechwoods SAC Recreation Mitigation Strategy. Report by Footprint Ecology.

³² <https://sac.incc.gov.uk/site/UK0012642>

largely unmodified and includes gorges, as well as significant areas of associated woodland. The lower 23km is transitional habitat to the confluence with the Severn Estuary. The river supports a number of internationally important migratory fish, including Atlantic Salmon, Lamprey and Shad species. Otters are widespread.

3.8 The Qualifying Features comprise, as follows:

- watercourses with the *Ranunculon fluitantis* and *Callitricho-Batrachion* vegetation & rivers with floating vegetation often dominated by water-crowfoot
- 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* Twaithe shad; *Salmo salar* Atlantic salmon; *Cottus gobio* Bullhead; *Lutra lutra* Otter

3.9 A Core Management Plan was published in 2008 by CCW³³ (predecessor of Natural Resources Wales) - The River Wye SAC is underpinned by SSSIs, including Lower Wye; Upper Wye; Wye Tributaries; Afon Llynfi; Duhonw; Afon Irfon; River Ithon; Upper Wye Tributaries; and Colwyn Brook Marshes. The Site Improvement Plan (2014)³⁴ identified Pressures/Threats for water pollution; physical modification; invasive species; hydrological changes; forestry & woodland management; fish stocking; water abstraction; inappropriate scrub control; undergrazing; transportation & service corridors. A Pressure was identified for freshwater fisheries, and Threats were identified for public access & disturbance; and atmospheric nitrogen deposition.

3.10 In parts of the River Wye SAC and Lugg SAC, levels of phosphate were exceeding targets governed by the Habitats Directive. Therefore, in 2014 a catchment scale Nutrient Management Plan (NMP)³⁵ was developed for the River Wye SAC by the Environment Agency and Natural England. The aim of the plan was to manage nutrients (with a focus on phosphates) in the River Wye SAC to enable development growth in Herefordshire (upstream of the Forest of Dean) whilst conserving the river environment.

3.11 Excess nutrients, especially phosphate, reduce the diversity of aquatic plants. This has knock-on impacts on aquatic invertebrates, fish and other organisms living in the river. Excess nutrients also cause algal blooms during high temperatures or low flow periods (or both), driving down biological oxygen levels and causing particular harm to salmon and other fish species. The Atlantic Salmon population is in a critical state. Phosphate in the river enters mostly from agricultural land (72-74%) and regulated wastewater discharges (21-23%). Excess sediment smothers wildlife habitat (for example salmon and

³³

<https://naturalresources.wales/media/673364/River%20Wye%20SAC%20Core%20Management%20Plan%20approved.pdf>

³⁴ <https://publications.naturalengland.org.uk/publication/5178575871279104>

³⁵ <https://www.gov.uk/government/publications/nutrient-management-plan-river-wye#>

other fish spawning grounds), carries nutrients into the river, and makes the river shallower, exacerbating the harmful impacts of high and low river flow. On average over 75% of sediment in the River Wye entered from agricultural land, with approximately 20% attributed to riverbank erosion and the remainder attributed to urban diffuse pollution and sewage treatment.

- 3.12 Climate change increases the occurrence of severe high river flow events that flood and damage riparian habitats, such as Water Crowfoot. Hotter, drier summers cause low flow events and increase the overall temperature of the river, making it more vulnerable to harm from nutrient pollution. Himalayan balsam, Japanese knotweed, American skunk cabbage and giant hogweed are invasive non-native species found in the River Wye, and their increased presence is associated with climate change.
- 3.13 The condition of the River Wye has continued to deteriorate since that time (2014). The Wye Catchment Partnership Plan (2019)³⁶ seeks a collaborative approach to catchment management to help address issues for flooding, water quality, and biodiversity. Prompted by citizen science and action groups concerned with the river quality, further work has been undertaken by government. The condition of the River Wye SAC (and SSSI), covering the stretch of the river in England, was assessed to be 'Unfavourable - Declining' in May 2023.
- 3.14 A letter³⁷ had been sent by NE to River Wye & Lugg SAC/SSSI stakeholders in March 2023 advising of the recent indicative condition assessment of the SSSIs. The River Lugg is showing declines in Atlantic salmon, and White Clawed Crayfish. The River Lugg is failing its water quality targets and the water quality in the Lugg is declining. Nutrient Neutrality advice remains in place for the Lugg. In the River Wye we can see declines in macrophytes, salmon and white-clawed crayfish but the Wye is not currently failing its water quality targets. Although the River Wye is close to its phosphate targets on some of the monitoring points, the latest evidence indicates levels have been stable. Nutrient Neutrality advice does not apply to the Wye as it is not failing its water quality targets.
- 3.14 The River Wye Action Plan (April 2024)³⁸ aims to stop this continuing decline by making the catchment a pilot for transforming how manure is managed, while continuing to support the creation of new habitat to keep nutrients and sediment in the field and make space for nature. This plan will also support further progress towards legally binding environmental targets on species abundance and water pollution. Permitted poultry farms will be required to only export their manure to farms where it will not result in the application of nutrients more than crop and soil need, or other appropriate recipients, by December 2025. This will contribute to addressing the phosphorus pollution situation.

³⁶ https://catchmentbasedapproach.org/wp-content/uploads/2020/04/Wye-Catchment-Partnership-Plan_2019.pdf

³⁷ Letter from NE to stakeholders re River Wye & Lugg SAC/SSSI (March 2023).

³⁸ <https://www.gov.uk/government/publications/river-wye-action-plan/river-wye-action-plan>

- 3.15 The extent of the hydrological and wider ecological networks indicates the potential for in-combination effects with other local plans such as for Monmouthshire and Herefordshire.

Severn Estuary SAC/SPA/Ramsar

- 3.16 A large estuary with extensive intertidal mudflats and sandflats, rocky platforms and islands. Salt marsh fringes the coast backed by ditches and occasional brackish ditches. The seabed is rock and gravel with subtidal sandbanks. The estuary's classic funnel shape, unique in the UK, is a factor causing the Severn to have the second- highest tidal range in the world.
- 3.17 Qualifying features: The Severn Estuary SAC³⁹ hosts the following habitats: estuaries, mudflats and sandflats not covered by seawater at low tide, Atlantic salt meadows (*GlaucoPuccinellietalia maritimae*), sandbanks which are slightly covered by sea water all the time, and reefs. The site also supports sea lamprey (*Petromyzon marinus*), river lamprey (*Lampetra fluviatilis*) and twaite shad (*Alosa fallax*). The Severn Estuary SPA supports overwintering Bewick's swan (*Cygnus columbianus bewickii*); on passage ringed plover (*Charadrius hiaticula*) and overwintering curlew (*Numenius arquata*), dunlin (*Calidris alpina alpina*), pintail (*Anas acuta*), redshank (*Tringa tetanus*), and shelduck (*Tadorna tadorna*). It also regularly supports at least 20,000 waterfowl.
- 3.18 The Site Improvement Plan⁴⁰ priority issues relate to public access/disturbance, physical modification, development, coastal squeeze, changes in land management & species distributions, water pollution, air pollution (atmospheric nitrogen), fisheries (commercial & recreational), invasive species, and various marine issues. The Severn Estuary is underpinned by 36 SSSI Units through the estuary and the upper estuary.
- 3.19 The three key activities that may cause the greatest impact on the designated features within this site include paddle sports, powered flying and 'other' (dog walking). There is recent growing awareness of the potential for recreational pressures to impact on the Severn Estuary SAC/SPA/Ramsar site, particularly on the bird populations for which the SPA and Ramsar site are designated and including with regard to functionally linked habitat. The River Severn is functionally linked to the designated site of the estuary and it is along the boundary of the District to the east (the mid-point of the river constitutes the administrative boundary).
- 3.20 The Ramsar designation⁴¹ advises that the site consists of an extensive intertidal zone comprising intertidal mudflats, sand banks, saltmarsh, shingle, and rocky platforms. Flora and fauna communities typical of extreme physical conditions occur at the site. The invertebrate community provides an important food source for passage and wintering waders. The site is of particular importance for staging nationally important numbers of several

³⁹ <https://publications.naturalengland.org.uk/publication/6081105098702848>

⁴⁰ <https://publications.naturalengland.org.uk/publication/4590676519944192>

⁴¹ <https://rsis.ramsar.org/rsis/67>

species of waterbirds, including *Tadorna tadorna* and *Numenius phaeopus* (Whimbrel), and supports internationally important numbers of various species of wintering waterbirds, including *Limosa limosa islandica*. This site is important for several species of fish migrating between sea and river via the estuary. Small patches of a nationally rare plant *Lythrum hyssopifolia* are found in the grassland zone.

- 3.21 The implications of recreational activities on Habitats sites have been increasingly recognised and investigated. The Severn Estuary is one of the UK's most dynamic habitats and attracts a wide range of outdoor activities from walking to watersports. Increasing populations associated with increased development and encouragement of healthy active living have prompted recreational studies to investigate the uses and pressures on the estuary. In 2016, a visitor survey⁴² was undertaken for the part of the SPA/Ramsar within the Stroud District. Further visitor surveys have been undertaken and reported (2022)⁴³ to inform Stroud DC and the Gloucestershire local authorities. In 2017, a visitor survey in Lydney to inform a recreation strategy⁴⁴ for that part of the estuary was undertaken for the Forest of Dean DC. It is likely that residents in new development will access those parts of the Severn Estuary that are nearest to them and zones of influence have been identified, together with options for mitigation measures. The investigation of the recreational use of the Severn Estuary continues and a further survey was undertaken in 2023 to inform an ongoing project⁴⁵ funded by Natural England and coordinated through the Severn Estuary Partnership (of which FDDC, nearby LPAs and other organisations are members). The development of the updated Severn Estuary Strategy is ongoing at the time of writing.
- 3.22 The extent of the hydrological and wider ecological networks indicates the potential for in-combination effects with other local plans such as for Monmouthshire, Herefordshire, GCT SLP, Tewkesbury, Stroud, South Gloucestershire and Bristol. The Severn Estuary is subject to a variety of strategies and plans associated with shoreline management (coastal erosion & flooding) and marine planning; also, through the Severn River Basin and catchment planning – flood risk, water quality and quantity. It may be noted that these strategic and development plans have been subject to HRA.

⁴² Southgate J. & Colebourn K. (2016). Severn Estuary (Stroud District) Visitor Survey Report. Report for Stroud District Council. Ecological Planning & Research, Winchester.

⁴³ Caals, Z. & Liley, D. (2022). Severn Estuary Visitor Survey 2022. Report by Footprint Ecology for Stroud District Council on behalf of the Gloucestershire local authorities and Natural England
<https://www.footprint-ecology.co.uk/reports/Caals%20and%20Liley%20-%202022%20-%20Severn%20Estuary%20Visitor%20Survey%202022.pdf>

⁴⁴ Liley D., Panter C. & Hoskin R. (2017). Lydney Severn Estuary Visitor Survey and Recreation Strategy. Footprint Ecology for the Forest of Dean District Council
<https://www.footprint-ecology.co.uk/reports/Liley%20et%20al%202017%20Lydney%20Severn%20Estuary%20Visitor%20Survey%20and%20Recreation%20Strategy.pdf>

⁴⁵ <https://afallen.cymru/project-understanding-visitors-to-the-severn-estuary/>

Walmore Common SPA/Ramsar

- 3.23 A low-lying basin in the Severn Vale adjacent to the River Severn, that is subject to extensive winter flooding and high, artificially maintained water levels in summer. The site supports a range of unimproved and improved wet grasslands overlying a large area of peat and is of botanical and ornithological importance. There is also a large network of ditches that has an important hydrological function as well as supporting a diverse community of flora and fauna. The Common is part of a wider important refuge and feeding area for wildfowl. The site⁴⁶ qualifies by supporting internationally important numbers of Bewick's Swan *Cygnus columbianus bewickii*. Conservation Objectives aim to prevent deterioration of the habitats and significant disturbance of the qualifying features.
- 3.24 The priority issues are all associated with Bewick's Swan and relate to changes in hydrology, species distribution and land management; off-site habitat availability & management; public access and disturbance, and the threats from energy production. The Walmore Common SPA is underpinned by SSSI habitat of neutral grassland that is sensitive to Nitrogen deposition.
- 3.25 The Ramsar designation⁴⁷ advises that the common is improved and unimproved grassland dissected by a network of drainage ditches and subject to intermittent seasonal flooding. The common is grazed by cattle during the summer months and is surrounded by improved grassland. The site regularly supports nationally or internationally important numbers of wintering Anatidae (ducks, geese, swans) and waders.

Wye Valley & Forest of Dean Bat Sites SAC

- 3.26 This Habitats Site straddles the England-Wales border and covers an area of around 140 hectares. It is underpinned by four SSSIs in Wales and nine SSSIs in England, all of which lie entirely within the SAC. This complex of sites contains by far the greatest concentration of lesser horseshoe bat in the UK, totalling about 26% of the national population. It has been selected on the grounds of the exceptional breeding population, and the majority of sites within the complex are maternity roosts. The site also supports the greater horseshoe bat in the northern part of its range, with about 6% of the UK population. The site contains the main maternity roost for bats in this area, which are believed to hibernate in the many disused mines in the Forest.
- 3.27 The complex of sites comprises deciduous woodland, villages, roads and industrial areas – including buildings in everyday use used by bats for breeding and a series of mines used by bats for hibernation. It is a heavily wooded area edged by farmland which is predominantly used for grazing. Within the roost the bats are vulnerable to disturbance at critical times, structural alteration, and changes in ventilation. The bats also depend on features outside the designated sites including intermediate roost, foraging

⁴⁶ <https://publications.naturalengland.org.uk/publication/5682196320878592>

⁴⁷ <https://rsis.ramsar.org/rsis/538>

grounds, and hedgerows/tree belts that the bats use as commuting routes. Impacts on these features can also affect the integrity of the designated site.

- 3.28 The primary reason for selection of the site is the presence of Annex II species Lesser Horseshoe Bat (LHB) *Rhinolophus hipposideros* and Greater Horseshoe Bat (GHB) *Rhinolophus ferrumequinum*. Conservation Objectives aim to avoid the deterioration of the qualifying natural habitats and the habitats of qualifying species, ensuring the integrity of the site is maintained. This relates to both roosting and foraging habitat – condition, security, access, and disturbance.
- 3.29 The Site Improvement Plan⁴⁸ identifies Priority threats identified for physical modification and habitat connectivity; public access/disturbance remains a pressure. The sites that make up this SAC lie very close to and functionally overlap with the Wye Valley Woodlands SAC.
- 3.30 As noted in 3.26 previously, The Wye Valley & Forest of Dean Bats SAC is underpinned by 4 SSSIs in Wales and 9 SSSIs in England. The Welsh SSSIs are: Llangoven Church; Mwyngloddfa Mynydd-Bach; Newton Court Stable Block; Wye Valley LHB sites (4 separate sites). The English SSSIs are: Blaisdon Hall; Buckshraff Mine & Bradley Hill Railway Tunnel; Caerwood & Ashberry Goose House; Dean Hall Coahs House & Cellar; Devil's Chapen Scowles; Old Bow & Old Ham Mines; Sylvan House Barn; Westbury Brook Ironstone Mine; and Wigpool Ironstone Mine. These component SSSIs are a mixture of maternity roosts and hibernation sites in old buildings or mines/caves.
- 3.31 NE provided supplementary advice (2019)⁴⁹ on conserving and restoring site features. The bat population is further supported by a large number of other summer roosts (of varying types) and hibernation sites throughout the area which are not designated but form part of the wider ecological network supporting the integrity of the SAC. The flight-lines and feeding grounds of the wider ecological network are critical in supporting this SAC. There is also evidence for much longer distance connections between the populations in the Wye Valley and Forest of Dean area and the Cotswolds to the east (Woodchester Park SSSI greater and lesser horseshoe bat maternity roost), the Malvern Hills to the north and also much further west into Wales.
- 3.32 This advice further asserts that although the designated areas associated with this site are small hectares that comprise the area of buildings and mines/caves, favourable condition is measured against the survival of the population. Therefore a much wider area comprising supporting habitat for other types of roost, and that provides food, access and mixing of the population, is critical to achieving favourable condition of the SAC. Site-specific seasonality of qualifying SAC features is provided, together with details on attributes, targets and supporting notes, including for example foraging distances, and sources of site-based evidence, where available.

⁴⁸ <https://publications.naturalengland.org.uk/publication/6102625057505280>

⁴⁹ NE (2019) UK0014794 Wye Valley and Forest of Dean Bat Sites SAC supplementary advice

- 3.33 The FDDC has published work by the Bat Strategy Group (July 2021)⁵⁰ providing interim guidance for planning and development management with key principles to support the assessment and evaluation of development proposals. Three survey approaches (A, B and C) have been developed based on the proximity to roost sites, scale of development and relationship to important horseshoe bat landscape assets. A series of roost proximity maps or buffers indicate the proximity of roost sites and thus provide guidance on the appropriate survey approaches (A, B, C).
- 3.34 The extent of wider ecological networks indicates the potential for in-combination effects with other plans such as for Monmouthshire, Herefordshire, and the GCT SLP. Woodlands plans such as the Wye Valley North Forest Resource Plan (2014)⁵¹ in Monmouthshire to the south-west of the FDDC area may also be considered.

Wye Valley Woodlands SAC

- 3.35 Also straddling the England-Wales border, this Habitats Site is predominantly broad-leaved deciduous woodland (87%). It is underpinned by sixteen SSSIs of which eight lie in part or all within the Forest of Dean, all of which lie entirely within the SAC. A significant proportion of the SAC⁵² is already positively managed by a group of woodland/environmental organisations, including Natural England. Annex I habitats that are the primary reason for selection of this site are Beech forests *Asperulo-Fagetum*, considered to be one of the best areas in the UK. Such a variety of woodland types is rare within the UK. In places lime *Tilia* sp., elm *Ulmus* sp. and oak *Quercus* sp. share dominance with the beech. Structurally the woods include old coppice, pollards and high forest types. *Tilio-Acerion* forests of slopes, screes and ravines. These woods of the lower Wye Valley, set in a matrix of unimproved grassland and other semi-natural habitats, form one of the most important areas for woodland conservation in the UK.
- 3.36 A wide range of ecological variation is associated with slope, aspect and landform. The woodland occurs here as a mosaic with other types, including beech *Fagus sylvatica* and pedunculate oak *Quercus robur* stands. Uncommon trees, including large-leaved lime *Tilia platyphyllos* and rare whitebeams such as *Sorbus porrigentiformis* and *S. rupicola* are found here, as well as locally uncommon herbs, including wood barley *Hordelymus europaeus*, stinking hellebore *Helleborus foetidus*. The Wye Valley is representative of yew *Taxus baccata* woods in the south-west of the habitat's range. Annex II species present as a qualifying feature, but not a primary reason for site selection: Lesser horseshoe bat *Rhinolophus hipposideros*, for which the area is considered to support a significant presence.

⁵⁰ <https://fdean.gov.uk/media/q1jinfo54/wv-fod-bat-sac-development-management-survey-and-assessment-guidance-vr-july-2021.pdf>

⁵¹ <https://naturalresources.wales/about-us/what-we-do/strategies-and-plans/forest-resource-plans/wye-valley-north-forest-resource-plan/?lang=en>

⁵² <https://publications.naturalengland.org.uk/publication/6331090281168896>

- 3.37 Subject to natural change, the objective is to maintain Broadleaved, mixed and yew woodland habitats and geological features in favourable condition (or restored to favourable condition if features are judged to be unfavourable). In particular, to maintain the Broadleaved, mixed, and yew woodland habitat in favourable condition; and to maintain the hibernating population of Horseshoe Bats in favourable condition.
- 3.38 The Site Improvement Plan⁵³ identifies Pressures/Threats from Deer, Forestry & Woodland Management, Invasive Species, Habitat Connectivity, Atmospheric Nitrogen Deposition, together with Threats from Species Decline, Disease, and Public Access/Disturbance

⁵³ <https://publications.naturalengland.org.uk/publication/4735117343850496>

4.0 POTENTIAL IMPACT PATHWAYS & SCREENING FOR LIKELY SIGNIFICANT EFFECTS (LSEs)

Atmospheric Pollution (Nitrogen Deposition & Dust)

- 4.1 The main pollutants of concern for designated sites are oxides of nitrogen (NO & NO₂ = NO_x), ammonia (NH₃) and sulphur dioxide (SO₂)⁵⁴. Ammonia can have a directly toxic effect upon vegetation, particularly at close distances to the source such as near road verges. High levels of NO_x and NH₃ are likely to increase the total nitrogen (N) deposition to soils, potentially leading to further adverse effects in ecosystems. Increases in nitrogen deposition from the atmosphere can, if sufficiently great, enhance soil fertility and lead to eutrophication (excessive nitrification). This often has adverse effects on the community composition and quality of semi-natural, nitrogen-limited terrestrial and aquatic habitats. The UK Air Pollution Information System (APIS)⁵⁵ provides data on whether concentrations of NO_x are currently exceeding critical loads at the designated sites.
- 4.2 Sulphur dioxide emissions overwhelmingly derive from power stations and industrial processes, and ammonia emissions originate mostly from agricultural practices (87% of total NH₃ emissions in the UK in 2022)⁵⁶. NO_x emissions are dominated by the output of vehicle exhausts and fuel combustion in the energy industries – road transport contributed 30% of NO_x emissions in 2022⁵⁷. Housing development is likely to contribute most of its overall NO_x footprint through associated road traffic. Dust is only likely to be a potential issue during the construction stages of development projects and adverse effects are only at a very localised level – within 200m.
- 4.3 Emissions of NO_x can reasonably be expected to increase as a result of the plan, primarily due to an increase in the volume of traffic associated with housing growth – and this is the identified potential impact pathway. The Gloucestershire Local Transport Plan (2020-2041)⁵⁸ notes that Forest of Dean communities are spread across a large topographically diverse area. As with any predominantly rural area, travel patterns are dominated by the private vehicle. However, the high quality woodland environment serves a strong cycling culture with the economic benefits recognised and the opportunities to strengthen local cycling links identified.
- 4.4 It is assumed that air pollution from roads is unlikely to be significant beyond 200m from the road itself (DMRB & NE guidance). Where a site is within 200m of only minor roads, no significant effect from traffic related nitrogen

⁵⁴ UK Air Pollution Information Service (APIS) <https://www.apis.ac.uk/>

⁵⁵ Ibid

⁵⁶ <https://www.gov.uk/government/statistics/emissions-of-air-pollutants/emissions-of-air-pollutants-in-the-uk-ammonia-nh3>

⁵⁷ <https://www.gov.uk/government/statistics/emissions-of-air-pollutants/emissions-of-air-pollutants-in-the-uk-nitrogen-oxides-nox>

⁵⁸ <https://www.gloucestershire.gov.uk/transport/gloucestershire-local-transport-plan-2020-2041/gloucestershire-ltp-2020-2041/>

deposition is likely. However, those roads forming part of the primary road network (motorways and A roads) might experience significant increases in traffic in combination with other plans or major projects in the vicinity. There may also be some minor roads that experience particular use.

- 4.5 The Cotswold Beechwoods SAC is within 200m of the major road the A46. However, the nearest boundary of the FDDC area is some 14 km to the west and it seems very unlikely that significant numbers of visitors from the edge of the Forest of Dean would travel across to the beechwoods for recreational journeys such that potential LSEs are indicated with regard to air pollution from nitrogen deposition. **Site screened out for appropriate assessment.**
- 4.6 As identified in the previous FDDC HRA work, three designated sites (River Wye SAC, Severn Estuary SAC/SPA/Ramsar, and Walmore Common SPA/Ramsar) are within 200m of major roads – A48, M48 and including their river crossings. A further two sites (Wye Valley Woodlands SAC and Wye Valley & Forest of Dean Bats SAC) are within 200m of the A466 and A4136 respectively.
- 4.7 The **River Wye SAC** supports a range of fish species that are dependent on the integrity of the river. The freshwater habitat within the river is known to have issues for high phosphates - rather than nitrogen – and in most lowland rivers, the main source of nitrogen is from inorganic fertilisers. However, the SAC is also designated for its transition mires and quaking bogs and APIS⁵⁹ identifies that bog habitats are sensitive to atmospheric nitrogen deposition with a critical nitrogen load of 10-15 kg N/ha/yr. Indications of exceedance impacts are listed as an increase in vascular plants, and altered growth effects on bryophytes. The SAC is variously located alongside/near the A466 and the locations of mire/bog habitat areas within 200m need to be checked to ensure that atmospheric pollution is not an issue. **Site screened in for appropriate assessment.**
- 4.8 The **Severn Estuary SAC** is designated for habitats including estuaries and Atlantic salt meadows with critical loading of 20-30kg/N/ha/year and indications of exceedance include increased dominance of graminoids⁶⁰. Whilst the qualifying features of the **Severn Estuary SPA** are not directly susceptible to atmospheric nitrogen deposition, the species and habitats that the waterbirds rely on might be affected by significant changes in pollutant concentrations. Most of the birds feed on invertebrates in the littoral sediment and this habitat has a critical nitrogen load of 20-30 kg N/ha/y. The littoral sediments also comprise the saltmarsh, which is one of the features of the SAC that are sensitive to atmospheric pollution. The M48 Severn Bridge crosses the Severn Estuary at the southern tip of the FDDC area. Whilst the main motorway M4 with its Prince of Wales Bridge is further to the south of the district, the M48 is an important local route and traverses through the SAC/SPA/Ramsar. **Site screened in for appropriate assessment.**
- 4.9 The **Walmore Common SPA/Ramsar** supports wet unimproved and improved grasslands that are important for feeding and roosting for the Bewick's Swan

⁵⁹ <https://www.apis.ac.uk/>

⁶⁰ Herbaceous plants with grass-like morphology – contrasted with forbs that are herbaceous plants without grass-like features.

for which the site is designated a SPA. Since improved grasslands receive high levels of Nitrogen in fertilisers/manures, negative effects from atmospheric N deposition are not expected (APIS). However, the Common is located within 200m of the A48 – a major route through the south-eastern edge of the FDDC area between Gloucester/Cheltenham and Chepstow/Newport. **Site screened in for appropriate assessment.**

- 4.10 The **Wye Valley Woodlands SAC** comprises several qualifying woodland habitats and the SIP identified atmospheric nitrogen deposition as a particular pressure and threat for beech forests, mixed woodlands, and yew-dominated woodlands. The beech woodland *Asperulo-Fagetum* features and yew woodland *Taxus baccata* have critical nitrogen loads of 10-20 kg N/ha/yr. Exceedance of the critical load would result in changes in soil processes, nutrient imbalance and an altered composition of plant and mycorrhiza communities. North of Chepstow, component areas of the Wye Valley Woodlands SAC lie immediately adjacent to the A466, the main transport route that follows the river on the western edge of the FDDC area. **Site screened in for appropriate assessment.**
- 4.11 The qualifying features of Lesser and Greater Horseshoe Bats for the **Wye Valley & Forest of Dean Bats SAC** are not directly sensitive to atmospheric nitrogen deposition. The supporting habitats include woodland, permanent pasture, tall bushy hedges and open tree areas and it is unknown whether atmospheric nitrogen deposition would affect the overall foraging values of the SAC woodlands for the bats. **Site screened in for appropriate assessment.**

Loss or Damage to Habitats; Functionally Linked Land

- 4.12 **Physical Loss of Habitat:** Five of the six habitats sites are located partially or variously within the FDDC area; the Cotswold Beechwoods SAC is outside the area. None of the FDLP site allocations lie within the boundaries of the habitats sites and are, therefore, **screened out for appropriate assessment.**
- 4.13 Loss or damage to habitats from development outside of the habitats site boundaries may result in LSEs where that habitat contributes towards the qualifying features for which the site is designated. Such sustenance zones or functionally linked offsite land⁶¹ includes movement corridors, feeding and sheltering habitat for mobile species such as bats, birds and fish. The Cotswold Beechwoods SAC does not support such mobile qualifying features and therefore this site is screened out for appropriate assessment. The other five habitats sites are designated for mobile species – **bats, birds and fish.**
- 4.14 **Functionally Linked Land & Bats:** The Wye Valley & Forest of Dean Bats Sites SAC is a complex of sites throughout the Forest. The bat populations are supported by summer roosts and hibernation sites throughout the area, forming part of the wider ecological network supporting the integrity of the

⁶¹ Natural England (2016) NECR207. Functional linkage: How areas that are functionally linked to European sites have been considered when they may be affected by plans and projects - a review of authoritative decisions

SAC, and with evidence of much longer distance connections with bat populations to the east, north and west beyond the FDDC area. The primary reason for designation of the site is the presence of Lesser Horseshoe Bats (LHBs) and Great Horseshoe Bats (GHBs). The sites that make up this SAC lie very close to and functionally overlap with the Wye Valley Woodlands SAC.

- 4.15 Different bat species have different requirements regarding habitat availability and quality. The NE Supplementary Advice (2019)⁶² suggest that the concept of Core Sustainance Zones (CSZs, 2016) may be used to take account of the supporting habitat surrounding the roost. The Bat Conservation Trust (BCT)⁶³ developed definitions for CSZs which refer to the area surrounding a communal bat roost. Within such CSZs, it may be necessary to ensure no net reduction in the quality and availability of foraging habitat. Connectivity needs for GHBs and LHBs include hedgerows, tree lines and woodland edges.
- 4.16 For GHBs, the CSZ radius is advised by the Bat Conservation Trust (BCT) at 3 km⁶⁴. GHBs forage primarily in edge habitats with broadleaved woodland important. The species is highly dependent on pasture sympathetically grazed by livestock, particularly cattle to support dung fauna. Secondary habitats include areas such as pasture and parkland are used, preferring landscapes with numerous large trees, tall hedgerows and woodland patches.
- 4.17 NE Supplementary Advice (2019) provides specific evidence relating to the Wye Valley bat sites. During the summer GHBs from Dean Hall have been recorded up to 9-10 km from the roost. During winter they emerge periodically for food and water such that habitat within the immediate vicinity of the hibernation sites is important.
- 4.18 For LHBs, the CSZ radius is advised by BCT at 2 km. LHBs forage largely in broadleaved woodland and in wooded riparian corridors, as well as along mature treelines and hedgerows. Sympathetically grazed pasture (preferably cattle) supporting dung fauna is also important. Secondary habitats include semi or unimproved wet pasture. NE Supplementary Advice (2019) provides specific evidence relating to the Wye Valley bat sites. Whilst during the summer LHBs tend to forage within 2-3km of their roost, they can travel up to 4km for suitable foraging grounds. During the winter, their foraging range is reduced with a mean foraging radius of 1.2km around hibernation sites reported.
- 4.19 The complexity of managing these sites for bats and the need for collaborative working was recognised by a steering group of stakeholders and preparation of a Bat Strategy (2016)⁶⁵ for the Wye Valley & Forest of Dean Bats SAC. This comprised a number of objectives including collation of research on population size and location, as well as positive management

⁶² Natural England (2019) European Site Conservation Objectives: supplementary advice on conserving and restoring site features Wye Valley Woodlands/ Coetiroedd Dyffryn Gwy Special Area of Conservation (SAC)

⁶³ <https://www.bats.org.uk/our-work/landscapes-for-bats/core-sustenance-zones>

⁶⁴ BCT (2020) Core Sustainance Zones and habitats of importance for designing Biodiversity Net Gain for bats. Bat Conservation Trust, London. <https://www.bats.org.uk/resources/guidance-for-professionals/bat-species-core-sustenance-zones-and-habitats-for-biodiversity-net-gain>

⁶⁵ [wye-valley-and-forest-of-dean-bat-strategy-2016.pdf \(fdean.gov.uk\)](https://www.fdean.gov.uk/wye-valley-and-forest-of-dean-bat-strategy-2016.pdf)

and protection of critical flight lines and feeding grounds. The FDDC (Interim Guidance, July 2021)⁶⁶ published further work undertaken by the Bat Strategy Group. This relates to only surveying habitats for Horseshoe Bats and sets out key principles to support the assessment and evaluation of development proposals. The Guidance identifies three survey approaches based on proximity to roost sites (A very sensitive location; B highly sensitive location & C sensitive location). Maps 1 & 2 show indicative location of bat roosts. Table 1 sets out Zols for maternity/hibernation roost sites for LHGs of 1 km, 1-3km & 3-4km and Table 2 sets out Zols for maternity roost sites 2km & 2-4km, and hibernation roost sites 3km for GHBs. Each Zol is aligned for habitat types in order to identify the likely required survey approach (A, B or C) – roost features, nationally protected habitats, grassland/arable, woodland/parkland, hedgerow or other linear feature such as a stream.

- 4.20 The **Wye Valley & Forest of Dean Bats SAC** is strongly inter-related to the **Wye Valley Woodlands SAC** – and therefore, **both SACs are screened in for appropriate assessment** with regard to loss or damage of functionally linked land and bats.
- 4.21 **Functionally Linked Land & Birds:** The Severn Estuary SAC/SPA/Ramsar supports overwintering Bewick's Swan and various on passage birds, including Ringed Plover, Overwintering Curlew, Dunlin, Pintail, Redshank and Shelduck, and also some 100,000 wintering waterfowl per year. The Walmore Common SPA support Bewick's Swan. The extent to which these bird species are using functionally linked (offsite) land is dependent on many factors, including species type and local conditions. Specific studies relating to species and functionally linked land are often not available.
- 4.22 Loss or damage to functionally linked land may arise from direct landtake through site allocations or from increased recreational use arising from the increased population associated with the new development. Recreational use is considered later in this section of the HRA report. As regards direct loss or damage to functionally linked land, site allocations will be assessed for their proximity to such land, where known. Current practice for HRAs in the UK tends to apply a 2 km distance from the habitats site.
- 4.23 Any specific studies will also be taken into account where relevant, for example, the NE Report (November 2022)⁶⁷ on identification of wintering and passage roosts on functionally linked land of the Severn Estuary – Gloucestershire & Worcestershire (Phase 5, NECR4010). This report considers the best available data on birds using wetlands sites from the last 10 years, focusing on the species named in the SPA – concentrations in winter, and if possible, spring and autumn passage. Migratory birds may extend some distance upstream on the River Severn and, for example, Bewick's Swan has been reported around Gloucester city and further north between Upton on Severn and Worcester city. Therefore, the **Severn Estuary SAC/SPA/Ramsar** and **Walmore Common SPA** are **screened in for appropriate assessment** with regard to loss or damage of functionally linked land and birds.

⁶⁶ <https://www.fdean.gov.uk/media/a1jfo54/wv-fod-bat-sac-development-management-survey-and-assessment-guidance-vr-july-2021.pdf>

⁶⁷ <https://publications.naturalengland.org.uk/publication/5694125407207424#>

- 4.24 **Functionally Linked Land & Fish:** The Severn Estuary SAC/SPA/Ramsar is designated for supporting Atlantic Salmon, Sea Trout, Sea Lamprey, River Lamprey, Allis Shad, Twaite Shad. It may also be noted that the Severn Estuary and its rivers constitute the largest eel fishery in the UK; constituting 95% of all glass eels (juveniles migrating towards freshwater) caught in England and Wales. Eels are critically endangered and on the UN red list . All of these species are migratory and therefore have the potential to be dependent upon watercourses located outside the boundaries of the SAC and Ramsar but with functional hydrological connectivity. The River Wye SAC is also designated for migratory fish – Sea Lamprey, Brook Lamprey, River Lamprey, Allis Shad, Twaite Shad, Atlantic Salmon, and Bullhead. The Severn Estuary SAC/SPA/Ramsar and the River Wye SAC are **screened in for appropriate assessment** with regard to loss or damage of **functionally linked land and fish**.
- 4.25 **Functionally Linked Land & Otters:** The River Wye SAC is also designated for the Otter and development proposals could affect habitat loss or fragmentation in or near water bodies and nearby terrestrial habitats. Otters are highly territorial animals with large home ranges. Depending on the quality of the habitat and availability of food, males can range along rivers for 35km⁶⁸. Zones of influence will depend upon how otters use the area, the type of vegetation and existing levels of disturbance. The **River Wye SAC** is **screened in for appropriate assessment** with regard to loss or damage of **functionally linked land and otters**.

Disturbance from Noise, Vibration or Light to Sensitive Species

- 4.26 Noise and vibration from the construction of proposed development are most likely to affect bird species, and may also be an issue for some bat roosts. Current HRA practice often uses 500m as a suitable distance from the habitats site boundary to assess any LSEs. Artificial lighting (street lamps and security lights) at night is most likely to affect bat populations where flightlines must remain unlit to function as dark corridors. However, these can extend beyond the designated boundary and into the wider landscape. For example, Buckshraff Mine & Bradley Hill Tunnel supports up to some 66% of the juveniles from Dean Hill – and also individuals from Woodchester Park SSSI maternity roost in the Cotswolds 15 km away come here to hibernate. The **Severn Estuary SPA/Ramsar** and **Walmore Common SPA/Ramsar** are **screened in for appropriate assessment** with regard to **noise and vibration for birds**.

The **Wye Valley & Forest of Dean Bats SAC** is strongly inter-related to the **Wye Valley Woodlands SAC** – and therefore, **both SACs are screened in for appropriate assessment** with regard to **light and noise/vibration disturbance and bats**.

⁶⁸ <https://www.gov.uk/guidance/otters-advice-for-making-planning-decisions>

Recreational Pressures

- 4.27 Recreational activities, both terrestrial and water-based, can have significant effects on habitats sites such as from dog-walking, predation by pets, cycling, trampling (including soil/path erosion), littering, fire, vandalism, canoeing, boating and other water activities. Habitats sites with qualifying bird species are likely to be particularly susceptible to recreational disturbances from walking, dog walking, illegal use of off-road vehicles and motorbikes, angling, wildfowling, and water sports. Habitats sites with qualifying bat species are likely to be vulnerable to increased intensity of recreational activities. For example, increased car traffic can affect distance to commuting from lights at night, collisions with vehicles; activities such as caving or walking in caves and other areas used for roosting or hibernating.
- 4.28 The sensitivities of habitats sites to different types of recreational pressures vary and the likely impacts are complex, varying according to habitat type and species and recreational activity. Each tourism area has its own characteristics and usage, although some generic commonalities of activities and impacts may be identified for coastal, estuarine, river, and terrestrial habitats. Baseline information considers the sensitivities of relevant habitats and species, their current condition/improvement requirement, and numbers/types of visitors. From this information, an assessment may be made for where increases of population would be expected to result in LSEs from recreational pressures. Zones of Influence (Zols) may be established from visitor surveys for each habitat site and beyond such a Zol it may be considered that there will be no LSEs. A standard 75% percentile of distances travelled by visitors is used to define a core recreational catchment. Particular concerns may arise from in-combination effects with increased populations from nearby local authority areas.
- 4.29 An increasing awareness of the impacts from recreational pressures on habitat sites and the need for collaborative studies was identified during the HRA (2015) of the adopted FDLP. Studies for Lydney (2017) identified that the mean distance between the interviewees' home postcode and the survey location was 18.4 km and that half of all interviewees lived within a 2.6 km radius. Studies for Stroud Council (2016-7) and subsequently with the GCT authorities (2022) identified a 7.7 km Zol for that part of the Severn Estuary habitats site (22 km) within the Stroud Local Plan area. The Forest of Dean Local Plan area operates with a 6.2km Zol⁶⁹ for assessing development proposals. The Severn Estuary Partnership, in collaboration with the Association of Severn Estuary Relevant Authorities and Natural England, has recently completed (December 2023) visitor surveys and Zols are likely to change, currently anticipated later in 2024. This project seeks to develop a better understanding of the public's perceptions of the impact of disturbance on the waterbird species and the findings will inform planning and management of recreational activities to minimise disturbance effects.

⁶⁹ <https://www.fdean.gov.uk/planning-and-building/wildlife-and-biodiversity/habitats-regulations-assessment-severn-estuary/>

- 4.30 The **Cotswold Beechwoods SAC** has undergone increasing damage in recent years through increased recreational disturbance arising from proposed new development. The majority of the Beechwoods site is open access land for people on foot; also, bridleways open to horse and bike riders. A particular increase has been dogwalking, the use of mountain bikes and horse riding. A long-term Strategy (2022)⁷⁰ for mitigating LSEs has been developed and agreed in response to concern about in-combination effects from proposed development in the Gloucester, Cheltenham & Tewksbury, and Stroud areas. The Strategy applies to a zone of influence of 15.4 km from the SAC. The nearest boundary of the FDLP area is the centre line of the Estuary that comprises the administrative boundary of FDDC, such that the FDLP area is outside of the identified zone of influence and therefore, **screened out for appropriate assessment** with regard to recreational pressures.

Changes in Water Quality & Water Quantity/Levels/Flow

- 4.31 The FDLP plan area lies within the Severn River Basin District (SRBD)⁷¹ and crossing the England/Wales border. Within the SRBD, the FDLP area is within the Severn Vale management catchment, composed of two operational catchments – the Forest of Dean with 6 waterbodies in the southern half of the district, and the Severn River with Tributaries with 7 waterbodies in the northern part of the district. The western part of the district is in the Wye management catchment with 4 operational catchments of which one covers part of the FDLP area – the Wye OC with 19 waterbodies.
- 4.32 Urban development arising from the FDLP could affect water dependent habitats sites through various impacts:
- Reduce quality of surfacewater run-off
 - Change surface permeability and run-off rates
 - Increased water demand from new homes and businesses
 - Increased effluent discharge for treatment at wastewater treatment works (WWTWs)

These impacts have the potential to change the water balance/levels and the quality of water entering habitats sites.

- 4.33 Water abstraction for supply and disposal of wastewater are controlled through a number of licensing mechanisms and a national water planning framework (England, 2020)⁷² which claims to understand the strategic water needs for England and its regions – across all sectors – *from 2025 to 2050 and beyond*; and the Water Strategy for Wales (2019)⁷³. These strategic plans, together with the River Basin Management Plans (RBMPs – Severn and Wales)⁷⁴ set the legally binding locally specific environmental objectives that underpin water regulation, such as permitting, and planning activities, and to

⁷⁰ For Stroud DC, Cheltenham BC, Cotswold DC, Gloucester CC, Stroud DC, Tewkesbury DC – Liley D & Panter C 2022. Cotswold Beechwoods SAC Recreation Mitigation Strategy. Report by Footprint Ecology.

⁷¹ <https://environment.data.gov.uk/catchment-planning/RiverBasinDistrict/9>

⁷² https://assets.publishing.service.gov.uk/media/5e70c2c4e90e070acfe5077/National_Framework_for_water_resources_summary.pdf

⁷³ <https://www.gov.wales/sites/default/files/publications/2019-06/water-strategy.pdf>

⁷⁴ <https://www.gov.uk/guidance/river-basin-management-plans-updated-2022>

help ensure compliance with the Water Framework Directive Regulations⁷⁵. These plans have been subject to HRA.

- 4.34 Habitats sites within the FDLP area can be affected by changes in water quality and water quantity – levels and flows: Severn Estuary SAC/SPA/Ramsar; River Wye SAC; and the Walmore Common SPA/Ramsar. Water quality and hydrological changes can also occur at land that is outside a designation boundary – functionally linked land. Qualifying features, such as mobile species birds & fish, may use or be dependent on such land. The River Severn is known to have functionally linked land to the north of the FDLP area. All watercourses in the FDLP area eventually flow into the Severn River/Estuary and the River Wye.
- 4.35 There has been concern recently associated with increased housing growth and increased nutrients affecting water quality and thence, the condition of protected habitats. This culminated in advice from NE to LPAs (2019) about increasing nutrient concentrations and seeking nutrient neutrality in housing developments. In response to this, the Home Builders Federation (HBF) commissioned research (2023)⁷⁶ to establish the volume of nutrients produced from occupation of new homes.
- 4.36 NE had highlighted that “in freshwater habitats and estuaries, poor water quality due to nutrient enrichment from elevated nitrogen and phosphorus levels is one of the primary reasons for habitats sites being in unfavourable condition”. The Environment Agency (EA, 2019) has asserted that the principal source of nutrients over and above natural background occurrences is from wastewater discharged from the existing population and agriculture. Research from the Environment Agency (EA) states that sewage treatment is responsible for 30% of Total Nitrogen and 75% Total Phosphorus (EA, 2019) found in the watercourse. ONS indicates that an average of 230,000 new dwellings have been built each year for the previous three years in England from 2020 to 2022. This suggests a theoretical population increase of 552,000 persons per year, based on the ONS national average of 2.4 persons per dwelling. The estimated proportion of Total Nitrogen and Total Phosphorus found in watercourses as a consequence of an average of 230,000 dwellings built each year can be calculated as 0.29% and 0.73% respectively.
- 4.37 Increased population has the potential to affect the quality and quantity of wastewater from WWTWs discharged to the rivers. Increased abstraction required to meet with increased supply demand from the additional residents has the potential to affect water quality and levels. Climate change tends to increase the occurrence of severe high river flow events that flood and damage riparian habitats. Hotter, drier summers cause low flow events and increase the overall temperature of the river, making it more vulnerable to harm from nutrient pollution. With less space for habitat and fish spawning, the impact of high and low flow events may be exacerbated.
- 4.38 The water levels at the wetland site Walmore Common SPA/Ramsar are maintained largely through rainfall, run-off and river levels with natural

⁷⁵ <https://www.legislation.gov.uk/ukxi/2017/407/contents>

⁷⁶ [https://www.hbf.co.uk/documents/13061/Brookbanks - Research Report Nov 2023.pdf](https://www.hbf.co.uk/documents/13061/Brookbanks_-_Research_Report_Nov_2023.pdf)

flooding events. Increased abstraction could have potential effects on water levels.

- 4.39 Therefore, **the Severn Estuary SAC/SPA/Ramsar, the River Wye SAC, and the Walmore Common SPA/Ramsar** have been **screened in for appropriate assessment** with regard to water quality and water quantity/levels/flow.

Summary of Screening & Potential LSEs

- 4.40 A summary of the screening of habitats sites and potential LSEs is presented in the table following:

Habitats Site	Air Pollution (Nitrogen)	Damage or Loss of Functionally linked Habitat	Disturbance from Noise, Vibration, Light	Recreational Pressures	Water Quality	Water Quantity /Levels/Flow
Cotswold Beechwoods SAC	x	x	x	x	x	x
Severn Estuary SAC, SPA, Ramsar	✓	✓ birds & fish	✓ birds	✓ birds	✓	✓
River Wye SAC	✓	✓ fish otters	x	✓ otters	✓	✓
Walmore Common SPA, Ramsar	✓	✓ birds	✓ birds	✓ birds	✓	✓
Wye Valley & Forest of Dean Bats SAC	✓	✓ bats	✓ bats	✓ bats	x	x
Wye Valley Woodlands SAC	✓	✓ bats	✓ bats	✓ Bats	x	x

X = no LSEs; ✓ = potential LSEs

Screening of Policies

- 4.41 The summaries of policies and screening approach is presented in Appendix I. The screening aims to identify those policies for which there is certainty of no LSEs because the policy is not directly relevant for delivering new development or there are no impact pathways identified. Various policies in

the FDLP will not result in new development and are therefore, screened out, but they will contribute to ensuring the safeguarding of Habitats Sites:

- Core Policies: LP.2 Construction & Use of Buildings; LP.3 Climate Adaptation
- Sustainability & Climate change: LP.8 Nature conservation – Protected Sites; LP.9 Habitats & Species Protection – Irreplaceable Habitats; PL.10 Green & Blue Infrastructure; LP.11 Green Infrastructure Allocations; LP.12 Biodiversity & Biodiversity Net Gain; LP.13 Biodiversity Generally

4.42 Various policies in the draft FDLP will not directly lead to new development coming forward and therefore, they will not result in LSEs on Habitats Sites:

- Core Policies: LP.1 Sustainable Development
- Plan Strategy: LP.4 Settlement Hierarchy; LP.7 Infrastructure
- Built , Natural & Historic Environment: LP.15 Design Principles; LP.16 Historic Character & Distinctiveness; LP.17 Locally Distinctive Areas; LP.18 Land of Recreation & Amenity Value; LP.20 Locally Valued Landscapes; LP.22 Site Conditions
- Community & Travel: LP.26 Town Centres;
- Housing: LP.29 Housing Delivery;
- Economy:

4.43 For policies that could result in delivery of new development, likely significant effects on habitats sites could not be excluded with certainty and therefore, they are **screened into the appropriate assessment**. This includes all the housing site allocations, some of the large employment allocations, and other policies such as Policy LP.5 Development in the Countryside (which might comprise tourism development); Policy LP.14 Renewable Energy; Policy LP.19 New Recreation Land; Policy LP.21 Flooding & Water Conservation; Policy LP.23 Community Facilities; Policy LP.24 Active Travel; and Policy 25 Cycle Routes.

5.0 APPROPRIATE ASSESSMENT (AA)

Introduction

- 5.1 The draft FDLP 2021-2041 is a review – and plan-making has evaluated the adopted plan and renewed it in accordance with changed requirements and updated evidence. The Council has had particular regard to key aspects of change associated with the need:
- to provide resilience to climate change and maintain a satisfactory environment
 - to provide green infrastructure (GI) as an integral part of new development & including national requirement for at least 10% biodiversity net gain (BNG)
 - to address national requirements for predicting housing requirements over the plan period
- 5.2 The sites with permission or identified in the 2018 Allocations Plan are expected to continue to be developed throughout the earlier part of the new plan. Where suitable, site capacities and requirements have been amended to align with the changed and updated requirements. Thus the proposed site allocations in the draft FDLP comprise a mix of new, revised, modified, and retained sites, and including some with permission.
- 5.3 There is an allowance for the contribution of small sites (under five net capacity) and for unidentified sites that are larger but not allocated. The overall basic calculation of requirement is as follows:

Category & history of sites & allocations	Numbers of new dwellings
New allocations only - TOTAL	2347
Old plan sites and permissions ie carried over allocations and current sites	2066
Total completions 2021/22 to 2023/24	1404
Small sites estimate plan period 790, less completions to 2023/24	680
Large windfall	528
Total annual net completions or total potential	7025

- 5.4 Growth is continued at Lydney, Coleford, and Cinderford, and with new strategic allocations at Beachley Camp and Newent. There are 14 new site allocations that have not previously been subject to HRA. The other 24 retained site allocations were previously assessed through HRA, although 7

have been modified. Details of the proposed site allocations are provided in the explanatory table set out in the FDLP Policy LP.28 Housing Sites.

5.5 Thus, the new FDLP has taken into account inherent mitigation measures, such as to focus new development near sustainable transport, adapt to climate change, and to require BNG. Overall, these measures will help to contribute protection of biodiversity – designated and non-designated.

5.6 The draft FDLP Policy **LP.8 Nature Conservation – Protected Sites** provides strong mitigation measures to protect and avoid adverse effects on habitats sites. The Policy states:

Development that could have an adverse effect (either individually or in combination with other developments) upon an internationally designated nature conservation site (including proposed sites and sites acquired for compensatory measures) will not be permitted. Development within identified zones of influence and on land functionally linked to protected sites must demonstrate (including through HRA) that it will not have an adverse effect on the protected sites and will be required to provide suitable mitigation where necessary*

**that is where adverse effects cannot be ruled out as assessed by HRA or other appropriate assessment.*

5.7 The policy is explicit that requirements for no adverse effects apply to designated land and functionally linked land – thus providing strong mitigation. The policy also recognises that project level appropriate assessment may be necessary as new development is required to demonstrate that it “will not have an adverse effect on the protected sites”. The policy clearly explains that adverse effects should consider any development project alone – and in combination with other developments, thus addressing the implications for cumulative and in-combination effects. This should be sufficient mitigation for potential LSEs that might arise from Policy LP.14 Renewable Energy, Policy LP.24 Active Travel, Policy LP.25 Cycle Routes, and Policy LP.42 Dean Forest Railway.

5.8 The supporting text explains that the sites themselves must be protected but that many depend on wider areas in order to function – and this applies especially to bats in the FDDC area. The supporting text further explains that allocations in the LP are all able to be implemented in keeping with the policy but further assessment will be needed at the stage of planning applications where the detail of the proposed development can be assessed. This acknowledges the hierarchy of assessment processes and decision-making. The text also advises that the largest zone of influence identified from any protected site at present is that relating to the Severn Estuary and this will set the context for the assessment of development and any required mitigation. It may rule out certain types of development.

5.9 Findings from the recent Severn Estuary visitor surveys (2022)⁷⁷ will inform any further strategic and local mitigation measures. For example, interviewees travel from relatively nearby and because the sites are near to home. Visitors

⁷⁷ Caals, Z. & Liley, D. (2022). Severn Estuary Visitor Survey 2022. Report by Footprint Ecology

use very little in the way of websites, leaflets or similar to plan their visits. It is difficult to modify such behaviours and takes time; measures are likely to be targeted at new residents. Policy LP.8 will be refined as necessary in consideration of consultation responses and the refinement of the Severn Estuary mitigation strategy. This will be especially significant with regard to avoiding/reducing the potential for in-combination effects.

5.10 **HRA Recommendations:**

- The supporting text of Policy LP.8 Protected Sites could explain the wider context with regard to Zols and functionally linked land – for Bats and migratory Birds and Fish – through the Wye Valley as well as the Severy Estuary

5.11 Other LP policies will contribute overall to the protection and improvement of biodiversity through the FDLP area. **Policy LP.3 Climate Adaptation; Policy LP.9 Habitats & Species Protection** provides requirements for development; **Policy LP.10 Green & Blue Infrastructure** requires that new development must provide GI as an integral part of development schemes; **Policy LP.11 GI Allocations** identifies areas as potentially providing additional GI over and above any requirement incorporated into any development allocations; and **Policy LP.12 Biodiversity & Biodiversity Net Gain (BNG)** requires that overall development must provide an assessment of biodiversity of a site prior to development and demonstrate a net gain of at least 20%. This is above the mandatory⁷⁸ requirement of 10% BNG for development.

5.12 Sensitivity to impacts from **invasive species** is identified for the River Wye, Severn Estuary and Wye Valley habitats sites. Invasive species are only usually associated with housing/employment developments during the construction phase when they may be introduced with materials. FDLP **Policy LP.22 Site Conditions** sets out the requirements for new development with regard to potential contamination and pollution. Such matters are addressed and resolved through the implementation of a Construction Environmental Management Plan (CEMP) that is established practice in the UK. It is considered that this is sufficient mitigation for the small risk of introducing invasive species through new housing development

5.13 **Dust** is only likely to be a potential issue during the construction stages of development projects and adverse effects are only at a very localised level – within 200m. Dust is usually controlled through implementation of a CEMP.

Atmospheric Pollution (Nitrogen Deposition)

5.14 The following habitats sites were screened in for consideration of atmospheric pollution:

- **Severn Estuary SAC, SPA, Ramsar**
- **River Wye SAC**

⁷⁸ From February 2024 under the TCPA 1990, as inserted by the Environment Act, 2021

- **Walmore Common SPA, Ramsar**
- **Wye Valley & Forest of Dean Bats SAC**
- **Wye Valley Woodlands SAC**

5.15 In accordance with current guidance (DMRB & NE), it is assumed that air pollution from roads is unlikely to be significant beyond 200m from the road itself. The draft FDLP includes the proposed site allocations that are within 200m of an habitats site, as follows:

- LP.54 Land at Ellwood Road, Milkwall, Coleford
- LP.69 Industrial Estate Lydney

5.16 The woodlands at Coleford are sensitive to deposition of nitrogen, including broadleaved and coniferous woodland that is noted in APIS as the relevant broad habitat for the qualifying bat species. Only about 48 new dwellings are proposed and, therefore, it is considered that significant effects alone are unlikely from the retained site allocation (current application).

5.17 Nitrogen sources at Lydney are likely to be dominated from marine and fluvial sources rather than atmospheric sources – as is typical with any estuary or major tidal river. Many of the habitats and species for which the Severn Estuary SAC is designated are insensitive to atmospheric sources of nitrogen. The key habitats within the Severn Estuary SAC/SPA/Ramsar of relevance to its waterfowl interest are the intertidal sandflats/mudflats, and the saltmarsh. APIS data indicate that these are well below their critical load. Policy LP.69 identifies an area of employment for continued use for employment generating uses. It is considered that significant effects alone are unlikely from the continuing employment use of this site.

5.18 **In-combination Effects:** On average in 2022, 65 per cent of the NO_x concentrations at the roadside originate as NO_x emissions from road transport⁷⁹. DMRB and NE (as a result of the Wealden judgment⁸⁰) require consideration of air pollution in-combination effects. The implication of the judgment is that, where the road traffic effects of other plans or projects are known or can be reasonably estimated, then these should be included in road traffic modelling by the local authority whose local plan or project is being assessed. A screening criterion of a change by 1,000 Annual Average Daily Traffic (AADT) should be applied to the traffic flows of plans/projects in combination. If the 1,000 AADT threshold is not exceeded, then the site may be screened out.

5.19 Overall, the Policies LP.27 Strategic Sites, Policy LP.28 Other Housing Sites; and Policy LP.39 Economy are concerned with delivery of the plan strategy. A key principle has been associated with selection of sustainable locations such that the use of private cars is not encouraged. The strategic approach comprises continued mixed development at Lydney, Coleford & Cinderford, new mixed development at Newent and Beachley Camp. Taking into

⁷⁹ <https://www.gov.uk/government/statistics/emissions-of-air-pollutants/emissions-of-air-pollutants-in-the-uk-nitrogen-oxides-nox>

⁸⁰ 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

account that new development will be focused in these areas, it is considered that potential cumulative effects from increased traffic are only likely in the southern part of the FDDC area with the A48/M48 and the proposed site allocations at Beachley. Such effects are most likely from the nearby adjacent local authorities – Monmouthshire and Newport.

- 5.20 The most recent HRA of the emerging replacement Monmouthshire Local Development Plan (November 2022, ongoing) acknowledges that the increases in commuter traffic arising from the new development will contribute to increased deposition of atmospheric nitrogen. The likely increases are associated with the extent of new development proposed around Monmouth & Chepstow (M4, M48) – with implications for the adjacent FDDC area. The HRA, so far, has identified that traffic flow modelling and habitat mapping may be required in regard to in-combination effects on the Wye Valley Woodlands SAC and the Severn Estuary SAC. [The River Wye SAC and the Wye Valley & Forest of Dean SAC were scoped out as not needing further assessment.]
- 5.21 It may be noted that the most recent HRA (September 2023) for the Newport Replacement LDP has screened out all habitats from resulting in LSEs for atmospheric nitrogen – so no in combination effects. The HRA of the emerging draft Herefordshire Local Plan (March 2024⁸¹, ongoing) identified uncertainty for LSEs and air pollution in respect of the River Wye SAC, Wye Valley Woodlands SAC, and Wye Valley & Forest of Dean Bats SAC. The Gloucester, Cheltenham & Tewkesbury authorities are now producing a Strategic & Local Plan SLP⁸² (review of adopted GCT JCS). Plan-making is at an early stage and the HRA is only at scoping/screening stage (December 2023). The HRA has identified that the Wye Valley & Forest of Dean Bats SAC is scoped in for further assessment in the HRA process. It is noted that the HRA has not taken forward Walmore Common SPA/Ramsar for further assessment.
- 5.22 At this stage of plan-making and available information, it is considered unlikely that there will be LSEs associated with nitrogen deposition from the FDLP in-combination with other relevant plans, and **no adverse effects on the integrity of the SACs**. However, as plan-making and the HRA process progress, the findings of air quality studies for the Monmouth and GCT SLP HRAs will be taken into account, if available in time.

HRA Recommendation:

- The findings of any air quality studies associated with the Monmouthshire LDP & HRA may be taken into account with regard to in-combination effects

⁸¹ <https://www.herefordshire.gov.uk/downloads/download/2333/local-plan-regulation-18-hra-and-sa-documents>

⁸² <https://strategiclocalplan.org/evidence-and-documents/>

Loss or Damage to Habitats, including Functionally Linked Land

5.23 The following habitats sites were screened in for consideration of loss or damage to land, including functionally linked land:

- **Severn Estuary SAC, SPA, Ramsar**
- **River Wye SAC**
- **Walmore Common SPA, Ramsar**
- **Wye Valley & Forest of Dean Bats SAC**
- **Wye Valley Woodlands SAC**

5.24 It was established at the HRA screening stage that none of the FDLP site allocations lie within the boundaries of the habitats sites and were, therefore, screened out for appropriate assessment as there would be no direct physical loss or damage to protected habitats from such allocated new development. It is possible that other new development could arise through windfall sites but this is likely to be small-scale and loss or damage to habitats sites will be avoided through the implementation of Policy LP.8 Nature Conservation Protected Sites. However, the HRA screening identified potential LSEs for functionally linked land and mobile species – bats, birds, fish and otters.

Bats & Functionally Linked Land

5.26 The following habitats sites were screened in for consideration of loss or damage to land, including functionally linked land:

- **Wye Valley & Forest of Dean Bats SAC**
- **Wye Valley Woodlands SAC**

5.26 The **Wye Valley & Forest of Dean Bats SAC** is strongly inter-related to the **Wye Valley Woodlands SAC** – and therefore, these two SACs are considered together with regard to functionally linked land and bats. Maintaining connectivity between these two SACs is important for maintaining the integrity of the bat populations as the bats are likely to use the woodland habitats adjoining the River Wye. Most bats are likely to use hedges and treelines to navigate and open areas of grassland to forage; they will also use caves, tunnels and buildings to roost – characteristics of the bat populations in the FDLP area. [Bats are very sensitive to increased light levels; unusual levels and pitches of noise also cause disturbance – and these matters are considered later in this section of the report.]

5.27 The previous HRA of the adopted LP discussed how bats follow a network of traditional flyways between roost sites and feeding areas, and how bats are susceptible to breaks in or severance of the features along which they commute. At that time, there was little information regarding foraging areas and bat flyways of the GHB and LHB – studies (2009)⁸³ on the GHBs at Dean

⁸³ <https://publications.naturalengland.org.uk/publication/41008>

Hall SSSI, Littledean, Cinderford recorded foraging within 2-4km of the SSSI/SAC but bats regularly travelled up to 10km from the roost site.

- 5.28 The report recorded foraging primarily around field systems with high hedges or along woodland edge/clearings in the forest. Key flight corridors linking Dean Hall with foraging areas: south down past Soudley Ponds and into the forest south of Soudley; along the route of the minor road southeast from the roost to Newnham and along a bridleway east of the roost. Bats accessed some of the foraging areas by crossing the A48 road in two places, the area between Blakeney and Ministerworth a particular issue. Other known road crossing points were on the A40 near Huntley and on the A 4151 and A4163.
- 5.29 This information guided the previous HRA to ensure site specific requirements for project level HRA in respect of certain site allocations – and this is taken forward into the review of the plan. There was particular concern for land to the north of Newnham on Severn. A new site allocation LP.96 Newnham North (about 150 dwellings) is proposed in the draft LP, extending further north and west from the allocation in 2016; mitigation measures are continued and the policy requires open space for GI and BNG - ...*"and any measures required to provide for the needs of bats which may use the site"*.
- 5.30 The Cinderford Northern Quarter was included as a Core Strategy Policy CSP11 and Area Action Plan for about 175 dwellings, about 6ha of employment generation uses, and about 3.5ha for mixed uses. Disused mining buildings within the Northern Quarter are used by a maternity colony of LHBs. Early work (2011) indicated possible mitigation measures to inform masterplanning. Subsequently, considerable bat surveying was undertaken over 4-5 years in order to develop a bat mitigation & monitoring strategy (2015)⁸⁴ to meet with the planning conditions for permission. This demonstrates the possibilities and effectiveness of project level HRA and ensuring that there are no adverse effects on the SACs. FDLP Policy LP.45 supports continued employment generating uses – providing that the development can be satisfactorily accommodated within the environment.

HRA Recommendation:

- Policy LP.45 should make specific mention of Bats.

- 5.31 In 2019, NE provided supplementary advice⁸⁵ on conserving and restoring site features. During the summer, LHBs tend to forage within 2-3km of their roost, though they can sometimes travel 4km and further from their roosts to suitable foraging grounds. They typically have between two and four feeding bouts per night using night roosts, usually barns and out-buildings, between bouts – and these roosts are integral to core foraging areas. Additional 'satellite' (day) roosts can be used during the summer. Summer and winter roosts are usually less than 5-10 km apart but can be up to 22km, sometimes further. The bats are vulnerable to the loss or disturbance of both summer and winter roost sites and the removal of linear habitat corridors. In winter lesser

⁸⁴ <https://www.fdean.gov.uk/planning-and-building/regeneration/cinderford-northern-quarter/>

⁸⁵ NE (2019) UK0014794 Wye Valley and Forest of Dean Bat Sites SAC supplementary advice

horseshoe bats hibernate in caves, mines and other underground sites but still periodically require forage and water. The winter foraging range is thought to be about half the distance covered in the summer months. The bats also hibernate in the many disused mines in the area and rely on the surrounding extensive woodland and grazed pastures with good quality hedgerows for their flight-lines and feeding grounds.

- 5.32 During the summer, GHBs form maternity colonies, generally in large old buildings, and forage in permanently grazed pasture, edges of mixed deciduous woodland and hedgerows. Such mixed land-use, especially on south-facing slopes, favours the dung beetles, moths and other insects on which the bats feed. A balance of woodland to pasture of about 50% and 50% provides optimum resources. GHBs from the Dean Hall maternity roost have been shown to forage up to 9 km from the roost using a number of night roosts during the feeding period. Night roosts such as porches and open buildings are also used during foraging. Transitional roosts, spring and autumn staging posts between maternity and hibernation roosts occupied by a number of bats, are integral to their life cycle. Transitional roosts may be important mating sites. Summer and winter roosts are usually less than 20-30 km apart but can be up to 50km.
- 5.33 The NE advice details the attributes and targets for specific features in the area with supporting and explanatory notes. The FDDC has published Interim Guidance prepared by the Bat Strategy Steering Group (July 2021⁸⁶) with key principles to support the assessment and evaluation of development proposals. Three survey approaches (A, B and C) have been developed based on the proximity to roost sites, scale of development and relationship to important horseshoe bat landscape assets. A series of roost proximity maps or buffers indicate the proximity of roost sites and thus provide guidance on the appropriate survey approaches (A, B, C). This information has been taken into account during the analysis of possible site allocations for the new FDLP.
- 5.34 Four site allocations in Cinderford (retained and/or modified from the earlier AP) are proposed: LP.46 Causeway Road (about 50 units plus if football club can be relocated); LP.47 Station Street (about 160 dwellings); St Whites Farm (about 50 dwellings); and LP.49 Valley Road (about 70 dwellings plus employment). These site allocations do not include specific requirements for protecting bats/SAC but there is SSSI/SAC land to the north at Wigpool (5-6 km away) and to the south/southeast at Buckshraff Mine and Dean Hall (1-2 km away)⁸⁷.

HRA Recommendation:

- Policies LP.46-LP.51 in and around Cinderford should make specific mention of Bats.

⁸⁶ <https://fdean.gov.uk/media/q1info54/wv-fod-bat-sac-development-management-survey-and-assessment-guidance-vr-july-2021.pdf>

⁸⁷ Estimated with Defra Magic Maps

- 5.35 The area around Lydney was identified for concern in the previous HRA due to the scale of development around the town. The updated site allocations proposed for Lydney continue to recognise the sensitivity of the area for bats: LP.44 Stowfield (employment plus about 1 ha mixed use); LP.63 Lydney East - continued development of mixed use with some 720 dwellings remaining plus new allocations LP.65 (up to 275 dwellings), LP.66 (about 200 dwellings), LP.67 (about 39 dwellings), and LP.68 (about 42 dwellings). Each of these site allocation policies include *"Development will only be permitted where it can be demonstrated that it will not have an adverse effect on the integrity of the Wye Valley and Forest of Dean Bat SAC"*, thus providing site-specific mitigation. Overall, Policy LP.63 also includes *"Special requirements as set out in the appendix "Lydney European Sites" are likely to apply."* (This appendix was not available at the time of assessment).
- 5.36 The area around Lydbrook has been recognised as having concern with regard to bats and is located about 5km to the east of the designated areas. Policy LP.44 allocates to enable redevelopment for a variety of employment uses. The policy includes text requiring *"There will be no adverse effects on European nature conservation designations"* and *"This may include HRA and a plan for the phasing of development"* – thus, providing mitigation measures.
- 5.37 The area around Bream has been recognised for concern with regard to bats and the Devil's Chapel Scowles SSSI component of the SAC is less than 1km from the centre of the village. The revised LP.83 allocates about 15 dwellings; the retained LP.84 (up to 12 dwellings), and the new site LP.85 Lydney Road (about 45 dwellings). Policy LP.85 includes *"This site must ensure it does not have an adverse impact on the nearby bat SAC."* No requirement re bats for LP.83 & LP.84 - *"close to bat SACs"* – but close is not defined – see 4km (NE 2019) and 9km (Dean Hall 2009). Everywhere is within SSSI impact zones.
- 5.38 The area around Drybrook was recognised in the previous work for concern with regard to bats. The previous site allocation has been modified to include additional land – now for around 97 dwellings. The policy includes *"The development of the site will need to take full account of and be compatible with the protection of the nearby bat SAC and its areas of influence"* – thus providing site-specific mitigation.
- 5.39 The area around Littledean was recognised in the previous work for concern regarding bats. Policy LP.90 Littledean Sutton Road is a new allocation for 36 dwellings. Policy LP.91 Littledean Beechway is retained from the former allocation for 17 dwellings. Policy LP.90 includes a requirement that *"Development must demonstrate it has no adverse impact on the nearby bat SAC and the wildlife it supports"* - thus indicating site-specific mitigation. However, LP.91 does not include any specific requirement for bats and it is – near to Dean Hall and known bat sites.
- 5.40 The area around Newnham was recognised in the previous work for concern regarding bats. Policy LP.97 Former Victoria Hotel for 20 dwellings is retained and Policy LP.96 Newnham North for around 150 dwellings is a new allocation. Neither proposed allocation has any site-specific mitigation requirements re bats.

- 5.41 The retained Policy LP.99 Sling, adjacent Miners Arms allocates for about 20 dwellings and includes the requirement *"The allocation is close to the Wye valley and Forest of Dean bat SAC and will need to demonstrate it can proceed without adverse effects"* – thus indicating site-specific mitigation.
- 5.42 Coleford is within 1-2km to the north of the designated SAC site for bats Old Bow & Old Ham Mines. Policy LP.54 Ellwood Road Millwall is retained for 48 dwellings and with a current application. The policy includes *"The site must demonstrate it will not when developed or while being developed have an adverse effect on the integrity of the Wye Valley and Forest of Dean Bat SAC"* – demonstrating site-specific mitigation. Any requirement for site-specific considerations of bats is not included in Policies: LP.52 Poolway Farm retained for about 140 dwellings; LP.53 North Road, Broadwell retained for about 70 dwellings with part permission; LP.55 Kings Meade retained for about 48 dwellings; LP.56 Poolway Road a new allocation for about 62 dwellings.
- 5.43 Policy LP.61 Employment Land Off B4228 Coleford includes in the supporting text – *"With a major bat SAC in close proximity and other related sites nearby development proposals will need to demonstrate how they can be accommodated with no adverse impact on these sites and their ecology"*.
- 5.44 Mitcheldean is within 1-2 km to the east of designated SAC sites for bats – Wigpool Mine, Stenders Quarry, and Westbury Brook Mine. Two small site allocations are retained from the previous LP as LP.94 St Michaels Way & High Street with about 9 and 10 dwellings respectively. Policy LP.93 Land Off Carisbrooke Road is a new site allocation for about 180 dwellings; nearby SAC sites are mentioned in the supporting text but no requirement in the policy text.
- 5.45 Beachley Camp is a proposed allocation based on a MoD site, currently occupied but due to be vacated by 2029. Anticipated to be developed in the second part of the plan period, the allocation is for about 600 dwellings, mixed commercial/employment, a local centre, and green space. The policy supporting text includes *" The development will have to demonstrate how it will manage recreation pressures that could be to the detriment of the Severn and Wye SACs"* – demonstrating site-specific mitigation but no specific mention of bats. The nearest part of the Wye Valley Woodlands SAC site is some 4km to the north of Beachley Camp. The camp area is currently occupied and there is a known LHB roost on the site.
- 5.46 Policy LP.79 Land South of A48 at Tutshill is a new proposed allocation for about 180 dwellings and open space. Tutshill is some 1-2km distance from the nearest part of the Wye Valley Woodlands SAC to the north. The policy includes wording *"Due to the proximity to the Severn estuary it will be necessary to demonstrate adequate mitigation for any recreation pressures arising"* but no mention of bats and the Wye Valley sites. The supporting text mentions the wider area extending to the Wye *is protected and ecologically sensitive*.

- 5.47 Policy LP.80 Land Adjoining Wyedean School is proposed as a new allocation for about 65 dwellings. The policy includes “...mitigation in respect of potentially increased recreation pressures on the Severn Estuary will be essential”. Sedbury is about 2km to the south of the Wye Valley Woodlands SAC.
- 5.48 Policy LP.81 Chapel Lane, Aylburton is a proposed new allocation for about 30 dwellings. The site is about 2km from designated bat SAC to the north. For consistency, there should be specific mention of bats and see, for example, LP.85.
- 5.49 Policy LP.87 Land at Over Old Road, Hartpury has resolution to permit is a retained allocation for about 26 new dwellings. Policy LP.88 Land South of Broad Street, Hartpury is a new proposed allocation for about 40 dwellings. The nearest bat sites to Hartpury seem to be some 15km to the west near Mitcheldean, and therefore, it is agreed that there is no concern for site-specific mitigation.
- 5.50 Policy LP.101 Whitecroft Road is a retained allocation for about 66 dwellings and subject to resolution to permit. Whitecroft is about 2 km to the north-east of the nearest designated bat sites. For consistency, there should be specific mention of bats, for example, see LP.85. Policy LP.102 Land to Rear of Homelea Netherend is a retained policy for about 12 dwellings. The nearest bat sites to Netherend seem to be some 5km to the west by the River Wye, and therefore, it is agreed that there may be no concern for site-specific mitigation, although functionally linked land may be nearby.
- 5.51 Policy LP.74 South East Newent is a new proposed strategic location for mixed development including GI, community facilities, and about 600 new dwellings. Policy LP.75 Cleeve Mill Lane Newent is a retained site for about 45 dwellings. The nearest bat sites to Newent seem to be some 8-9 km to the south-west at Wigton near Mitcheldean, and therefore, it is agreed that there is no concern for site-specific mitigation.
- 5.52 **HRA Recommendations:**
- Taking into account the inter-relatedness of the Wye Valley SACs and the extent of functionally linked land relevant for Bats throughout the area, and to ensure consistency of policy guidance, it is recommended that each site allocation includes the same policy wording with regard to Bats. It is suggested for consistency that the same standard wording is used throughout on all relevant policies: *the development should demonstrate that there will be no adverse effects, alone or in combination, on the integrity of the SAC, SPA and Ramsar sites.*
- 5.52 If policy wording to protect bats is added consistently to each proposed site and information provided to signpost the Council’s guidance on Bats and development management (July 2021) on - With mitigation measures in place through careful selection of proposed site allocations and where

necessary, site-specific requirements, it is concluded that there are **no adverse effects indicated on the integrity of the SAC with regard to Bats and functionally linked land, alone.**

- 5.53 **In-combination Effects:** Such effects are most likely from the nearby adjacent local authorities – Monmouthshire, Herefordshire, and Gloucester. The most recent HRA of the emerging replacement Monmouthshire Local Development Plan (November 2022, ongoing) acknowledged limited data on bats in the Wye Valley area and applied CSZs for 2km for LHBs and 3km for GHBs to identify any strategic development areas. An area at Chepstow was identified for potential concern and detailed policy requirements with mitigation possibilities have been identified for further consideration at the next stage of plan-making.
- 5.54 The HRA of the emerging draft Herefordshire Local Plan (March 2024⁸⁸, ongoing) applied the same CSZs of 2km & 3km and concluded that as there are no site allocations within 2 and 3 km, the SACs were not scoped into the assessment. The Gloucester, Cheltenham & Tewkesbury authorities are now producing a Strategic & Local Plan SLP⁸⁹ (review of adopted GCT JCS). Plan-making is at an early stage and the HRA is only at scoping/screening stage (December 2023). In consideration of several components of the Wye Valley & Forest of Dean SAC being closest at 9.3 km from the SLP area, bats are scoped into the HRA.
- 5.55 **HRA Recommendations:**
- Need to consider potential in-combination effects with regard to Bats and functionally linked land, particularly in the Chepstow area.

Birds, Fish, Otters and Functionally Linked Land

- 5.56 The following habitats sites were screened in for consideration of loss or damage to land, including functionally linked land:
- **Severn Estuary SAC, SPA, Ramsar**
 - **River Wye SAC**
 - **Walmore Common SPA, Ramsar**
- 5.57 Loss or damage to functionally linked land may arise from direct landtake through site allocations or from increased recreational use arising from the increased population associated with the new development. Recreational use is considered later in this section of the HRA report.
- 5.58 The implications of new development for **Birds** and functionally linked land was identified with the previous HRA (2015) and included an understanding of the need for collaborative working with neighbouring authorities. It also understood the need for more information, particularly for the new

⁸⁸ <https://www.herefordshire.gov.uk/downloads/download/2333/local-plan-regulation-18-hra-and-sa-documents>

⁸⁹ <https://strategiclocalplan.org/evidence-and-documents/>

development proposed in and around Lydney. Studies (2017)⁹⁰ undertaken for the FDDC concluded that four areas within Lydney New Grounds had been identified as being of importance to roosting/feeding Curlew, Shelduck & Lapwing during the winter, and to Whimbrel on passage (April-May, July-September).

- 5.59 Numbers of four species approach or exceed the 1% figure for the total population of the **Severn Estuary SPA** - Mallard, Lapwing, Curlew and Whimbrel – and are, therefore, of significance for HRA. Tufted Duck populations on the Lydney Harbour Pools near the railway station exceed the 1% criteria and Common Snipe and Golden Plover should also be included (2015 HRA). Additional areas just outside the Lydney Grounds study area have been identified as important and these include Rodmore Mead, Aylburton Warth and an area south of Alvington Court. The studies concluded that there were huge opportunities for enhancing habitat.
- 5.60 There are proposed site allocations at Lydney and within 2km of the estuary (which thus may include functionally linked land for Birds):
- Policy LP.62 Harbour Area Regeneration, Harbour, Lakes & Industrial Areas
 - Policy LP.63 Lydney East
 - Policy LP.64 Land South of the Bypass Adjoining Station Link Road
 - Policy LP.65 Land off Augustus Way & Court Road
 - Policy LP.66 Land off Driffield Road
 - Policy LP.67 Land at Highfield Lane
 - Policy LP.68 Land at Holms Farm
- 5.61 In addition, there are employment allocations at Policy LP.69 Mead Lane; Policy LP.70 Land between the A48 & Mead Lane; and Policy LP.71 Railway Station. Policy LP.72 Town Centre and Policy LP.73 Town Centre Highway Strategy – allocated to support the continued evolution of the town centre, and not considered to give rise to LSEs. Policy LP.64 South of Bypass is allocated for continued recreational use; it is agreed that non site-specific mitigation is required.
- 5.62 Over 25% of the new development envisaged by the LP will take place at Lydney and mitigation measures have been applied to ensure that there are no adverse impacts on the integrity of the designated sites, which will include for birds and functionally linked land. Policy LP.62 Harbour Area includes requirement for ...*“compatibility with the Habitats Regulations”* and that *“special requirements are set out in Appendix “Lydney European Sites”*. *“Development proposals will be required to demonstrate that they will not have an adverse impact on protected sites...”*. There may also be effects on water quality and quantity/flow. It is understood that the appendix has yet to be prepared but we would concur that such an approach would provide detail and strong mitigation measures.

⁹⁰ B Mills & M Smart (May 2017) Lydney New Grounds – Desk Based Review of Bird Assemblages in relation to the Severn Estuary SPA – for FDDC

- 5.63 Policy LP.63 Lydney East includes “*All development proposals must demonstrate that the treatment of waste water and any run off can be adequately provided for and that no adverse effects on the integrity of the River Severn SAC, SPA and Ramsar sites will result*”. This implies that adverse effects will arise from changes to water quality/quantity – but adverse effects can also arise from disturbance to functionally linked land. Also, that “*special requirements as set out in Appendix “Lydney European Sites” are likely to apply.*”
- 5.64 Policy LP.65 Land off Augustus Way, Policy LP.66 Land off Driffield Road, Policy LP.67 Land at Highfield Lane and Policy LP.68 Land at Holms Farm also include “*All development proposals must demonstrate that the treatment of waste water and any run off can be adequately provided for and that no adverse effects on the integrity of the River Severn SAC, SPA and Ramsar sites will result*”, but no requirement to consider the appendix.
- 5.65 Beachley is adjacent to the Severn Estuary and Policy LP.78 Beachley Barracks is an important new strategic allocation including about 600 dwellings – to be developed in the second part of the plan period. The policy includes “*Any development will need to demonstrate how it will mitigate the recreation pressures on the Severn Estuary and elsewhere that could arise, with use of on site and if required off site measures.*” The supporting text explains “*The development will have to demonstrate how it will manage recreation pressures that could be to the detriment of the Severn and Wye SACs.*”

HRA Recommendation:

- Reference should be made to the SACs in the policy text for Policy LP.78-LP.80, and that there may be concern about functionally linked land.
- 5.66 The recent NE research (November 2021)⁹¹ on functionally linked land of the Severn Estuary through Gloucestershire & Worcestershire focused on the species named in the SPA and/or SSSIs. Significant concentrations of birds were mapped; the bird assembly at each location described; and the characteristics of each site (habitat or feature) in terms of their appeal to the species were recorded. The study identified a total of 21 sites within the Vales which are considered likely to have a “High” importance to at least one species for which the SPA and/or SSSI were designated. For each of these sites, count data suggest that they hold as many, or more than the equivalent of 1% of the SPA population of one or more of these species for 50% or more of months. There are a minimum of a further 52 sites elsewhere in the two Counties that regularly or intermittently hold important numbers of birds which could have functional linkages with the SPA.
- 5.67 The study further noted that the influence of climate change on the species assemblages of wintering and breeding areas, as well as migratory flyways, is

⁹¹ NECR401 (November 2021) by Link Ecology Identification of wintering and passage roosts on functionally linked land of the Severn Estuary - Gloucestershire and Worcestershire (Phase 5)

becoming increasingly apparent. In the case of the SPA and areas around it, there are likely to be fewer of the wintering species originating from North East Europe, such as Bewick's Swan, White-fronted Goose and Dunlin, and an increasing occurrence of species with a more southerly distribution, such as Shoveler, Black-tailed Godwit, Ruff and perhaps Pintail. The details in this report will inform the Appendix to Policy LP.63 Lydney, and guide the project level HRAs with regard to likely impacts on designated birds, their preferred habitats, and likely movements on functionally linked land.

- 5.68 For birds and functionally linked land and the **Walmore Common SPA**, Newent with its strategic site allocation is some 11km directly to the north of Walmore Common SPA; Cinderford with its site allocations is about 8km to the west of Walmore Common SPA; and the development in and about Lydney is some 16km to the south-west. The site is designated for Bewick's Swan and the recent NE research (November 2021) on functionally linked land shows Bewick's Swan recorded on functionally linked sites through the River Severn, including around Lydney, and as far north as Upton on Severn and around Rhydd, with implications for in-combination effects.
- 5.69 As identified during the screening stage, the Severn Estuary and the River Wye are designated for migratory **fish**. These fish have the potential to be dependent on watercourses located outside the boundaries of the SACs but with functional hydrological connectivity. This is associated with water quality and quantity/levels/flow and is addressed in later sections of this HRA report.
- 5.70 The River Wye SAC is designated for **Otters** and a 500m impact zone is often used in HRAs, although males can range along rivers for many kilometres depending upon quality and availability of food. It is understood that Otters are widespread, particularly along the upper reaches of the Wye. There are no site allocations proposed within 500m of the River Wye – and, therefore, **no adverse effects are indicated on the integrity of the SAC with regard to Otters**.

Disturbance from Noise, Vibration or Light to Sensitive Species

- 5.71 The following habitats sites were screened in for consideration of disturbance from noise, vibration or light:
- **Severn Estuary SAC, SPA, Ramsar**
 - **Walmore Common SPA, Ramsar**
 - **Wye Valley & Forest of Dean Bats SAC**
 - **Wye Valley Woodlands SAC**
- 5.72 Birds, Bats and Otters may be sensitive to noise, vibration and light – and this is most often associated with the construction phase of a development project. However, excessive artificial lights at night (from new street lighting) can disorientate birds during migration. Artificial light falling on or close to a bat roost can cause many problems for bats, by; delaying or preventing emergence from roosts, resulting in reduced foraging time and missing the

peak time of insect abundance (just after dusk). Noise pollution causes stress to birds and makes communication harder for them; traffic noise can cause a reduction in total bat activity. Noise may disturb Otters but they are very flexible in their use of resting sites and do not necessarily avoid disturbance in terms of noise or proximity to human activity.

- 5.73 Noise and light effects arising from recreational disturbance, including on Birds, Bats and Otters are considered in the following section of the HRA report. In terms of noise and light effects on Birds and Bats from the operational use of new development, site allocations located within 2km of SPA/Ramsar and within 500m of a bat CSZ were identified, as follows: Within 2km of SPA/Ramsar: LP.78 Beachley Barracks; LP.79 Land South of A48 at Tutshill; LP.80 Land adjoining Wyedean School; sites at Lydney – LP.62-LP.70; Hartpury sites LP.86-LP.89; and Newnham sites LP96.LP.98. Lighting could also impact on functionally linked land which extends throughout most of the FDLP area.
- 5.74 Policies in the FDLP provide safeguards and mitigation measures from noise and light pollution through Policy LP.8 Nature Conservation – Protected Sites, and site specific requirements in the individual allocations where policy requires that “*Development proposals will be required to demonstrate that they will not have an adverse impact on protected sites...*” and draw attention to whether this is the Severn Estuary or the Wye Valley. Further advice for developers is available, for example, NE Supplementary Advice (2019) on Bats and technical guidance (2013) for the Cinderford Northern Quarter; also the emerging appendix on the Lydney European Sites. Key guidance for developers is provided by the FDDC (July 2021)⁹² Wye Valley & Forest of Dean Bat SAC Development Management. This sets out the context for bats; pre-survey requirements; survey design including the approach (A,B,C) depending on proximity to roost sites; impact assessment; and with maps showing the locations of roosts and SAC functionally connected roosts.

HRA Recommendations:

- Policy LP.8 Nature Conservation – Protected Sites could reference the interim bats guidance for developers
- The Council could consider a Dark Skies Policy that would then contribute to reducing potential adverse effects from light

Recreational Pressures

- 5.75 The following habitats sites were screened in for consideration of recreational pressures:
- **Severn Estuary SAC, SPA, Ramsar**
 - **River Wye SAC**
 - **Walmore Common SPA, Ramsar**

⁹² <https://fdean.gov.uk/media/q1info54/wv-fod-bat-sac-development-management-survey-and-assessment-guidance-vr-july-2021.pdf>

- **Wye Valley & Forest of Dean Bats SAC**
- **Wye Valley Woodlands SAC**

5.76 Both the River Wye and the Severn Estuary are very popular and very accessible recreational areas, attracting visitors locally and from across the UK. The economic value of tourism and recreation is recognised, for example, The Severn Estuary Partnership⁹³, and attractions are encouraged, for example, along the River Wye⁹⁴ ⁹⁵. Nature, health and wellbeing are intrinsically linked and, for example, Natural England has recently published a report⁹⁶ that further informs our understanding of the relationships between nature and human health. National planning guidance requires enabling and support for healthy lifestyles, encouraging access to GI, sports, walking and cycling. Thus, it might be assumed that recreational pressures are likely to increase over the plan period.

Severn Estuary & Recreational Pressures

- 5.77 The estuary supports a wide range of water-based activities including surfing, canoeing/kayaking, rafting and yachting/boating, as well as fishing. Land-based activities include walking/hiking, dog-walking and cycling, for example, the Severn Way Walk is a long distance trail of 210 miles. There are also diverse recreational and cultural/historic attractions near to the River Severn, including for example, Lydney Harbour and the Slimbridge Wetland Centre (some 8.5km from Lydney on the opposite bank).
- 5.78 The previous HRA (2015) of the adopted FDLP acknowledged the lack of visitor data for the River Severn generally and for the Lydney Harbour area. Subsequently, visitor surveys were undertaken and reported in 2017⁹⁷, together with establishment of a Recreation Strategy. It was identified that the average distance walked was 3.6 km; the mean distance between visitors' home postcode and Lydney was 18.4 km; and half of all interviewees lived within 2.6 km radius. The current Zol for FDDC is 6.2km from Lydney Harbour. Therefore, mitigation measures are in place for new development in the Lydney area. The proposed site allocations LP.62, LP.63, LP.64, LP.65, LP.66, LP.67, and LP.68 are within a 1-2 km distance.
- 5.79 Recreational pressures can be very locational and Zols are unique to a particular area. However, it is noted that visitor surveys and reported (2022)⁹⁸ to inform Stroud DC and the Gloucestershire local authorities identified a Zol for 7.7 km (Stroud visitors) and 17.7 km (all visitors). The Solent Recreation Mitigation Strategy (2021)⁹⁹ has established a 5.6 km Zol for new residential development around the Solent Estuary, together with agreed mitigation for bird disturbance. It was found that 90% of visitors were walkers (with or

⁹³ <https://severnestuarypartnership.org.uk/the-estuary/use-of-the-severn/tourism-and-recreation/#>

⁹⁴ <https://www.visitwales.com/things-do/nature-and-landscapes/what-see-along-river-wye>

⁹⁵ <https://www.visitdeanweye.co.uk/things-to-do>

⁹⁶ <https://naturalengland.blog.gov.uk/2024/03/01/joining-up-nature-recovery-and-health-priorities/>

⁹⁷ Liley D., Panter C. & Hoskin R. (2017). Lydney Severn Estuary Visitor Survey and Recreation Strategy. Footprint Ecology for the Forest of Dean District Council

⁹⁸ Caals, Z. & Liley, D. (2022). Severn Estuary Visitor Survey 2022. Report by Footprint Ecology for Stroud District Council on behalf of the Gloucestershire local authorities and Natural England

⁹⁹ <https://birdaware.org/solent/about-us/our-strategy/>

without dogs) and within 2 km of a site; and 70% of local visitors lived within 4 km of the site.

- 5.80 The investigations of the recreational use¹⁰⁰ of the Severn Estuary continue for the Severn Estuary Partnership with a further survey undertaken in 2022¹⁰¹, including 21 survey locations. Most interviewees were on a day trip or short visit from home (93%). Dog walking was the most common activity (cited by 49% of interviewees) followed by walking (35%), with a range of other activities including birdwatching and fishing. Most visits were quite short, with 64% of interviewees spending less than an hour on site. 63% of interviewees had arrived by car, 33% on foot, 3% by bicycle and 1% by public transport. The median route length taken during the interviewee's visit was 2.33km. By far the most common reason for choosing to visit the location where they were interviewed was that it was close to home (36% of interviewees).
- 5.81 The most frequently cited alternative site to visit was Frampton on Severn, followed by the Forest of Dean. Lydney Harbour and Severn Ham were the busiest survey locations in terms of the total number of people counted. Half of interviewees lived within 4.1km (straight-line distance) of the survey location that they were visiting, and three quarters of interviewees lived within 11.3km. For interviewees that were on a day trip or short visit from home, these figures were 3.7km and 10.4km.
- 5.82 The use of a 75% percentile (with the buffer applied to the habitats site boundary) is a recognised standard approach to defining a zone of influence (from visitor postcode data). From the 2022 visitor surveys, the 75th percentile for all interviewees on a short visit directly from home was 10.4km. The Estuary points draw people from further afield (75th percentile is 12.6km) than those interviewed on the potential functionally linked land (75th percentile of 8.6km). It was also indicated that those interviewed at the Estuary survey points undertook longer walks and visited for longer. There are also differences between the two sides of the Estuary. For the western side (i.e. Forest of Dean survey points) the 75th percentile was 10.5km while on the eastern side of the Estuary the 75th percentile was 14.7km. However, the analyses of these data are still ongoing and whilst 12.6km is likely to be the new Zol, at the time of writing, this has yet to be confirmed.
- 5.83 There are numerous networks of footpaths along the estuary that forms the south-eastern boundary of the FDLP area¹⁰²; from the Lydney/Naas area to the north there are many sections with a footpath directly alongside the river, to the south towards Beachley there are 8 access points (estimated from Magic Map). Proposed site allocations at Newent and Hartpury are some 14km and 17km respectively distant from the nearest Severn Estuary designated area and therefore beyond the Zol. There are proposed site allocations within 10.5 km Zol of Severn Estuary:
- Coleford sites about 10.5km distance: Policies LP.52 to LP.58
 - Cinderford sites about 8km distance: Policies LP.45 to LP.51

¹⁰⁰ <https://afallen.cymru/project-understanding-visitors-to-the-severn-estuary/>

¹⁰¹ Caals, Z. & Liley, D. (2022). Severn Estuary Visitor Survey 2022. Report by Footprint Ecology

¹⁰² <https://footpathmap.co.uk/map/?zoom=12.0&lng=-2.53121&lat=51.72635>

- Beachley sites less than 2km distance: Policies LP.78 to LP.80
- Lydney sites about 1-2km distance: Policies LP.62 to LP.70
- Bream sites about 6.5km distance: LP.83-LP.85
- Hartpury sites within about 2km distance: LP.86-LP.89
- Littledean sites within about 2.5-3km distance: LP.90-LP.92
- Mitcheldean sites about 6.5km distance: LP.93-LP.95
- Newnham sites about 200-500m distance: LP.96-LP.98
- Sling sites about 9-9.5km distance: LP99-LP.100
- LP.101 at Whitcroft is about 4.5km distance & LP.102 Netherend about 1.5km distance

5.84 The proposed sites at Coleford are likely to accommodate around 450 new dwellings, and the sites at Cinderford to accommodate around 400 new dwellings. It is considered that the increased population from these small numbers of additional dwellings is unlikely to have significant effects from recreational use on the Severn Estuary SAC/SPA/Ramsar. The proposed sites at/near Beachley are close to the Severn Estuary and likely to accommodate around 845 new dwellings.

5.85 The strategic site at Beachley Camp Policy LP.78 is at an early stage of planning and not anticipated to contribute mixed use development until the second part of the plan period. Policy has identified potential issues for recreational pressures and policy text includes " *Any development will need to demonstrate how it will mitigate the recreation pressures on the Severn Estuary and elsewhere that could arise, with use of on site and if required off site measures*". The implementation of policy requirements will be through an agreed masterplan – and therefore, a strategic mechanism for mitigation measures is in place and will be informed by the emerging findings of the Severn Estuary project.

5.86 The proposed sites at Lydney are anticipated to provide for about 1160 new dwellings. Policy LP.62 includes requirements that all new development must demonstrate ..."*their compatibility with the Habitats Regulations. The Special requirements as set out in Appendix "Lydney European Sites" apply. Development proposals will be required to demonstrate that they will not have an adverse impact on protected sites, and may be required to contribute to an overall recreation strategy.*" It is understood that the implications for recreational impacts in the Lydney area are being updated and will comprise part of the Lydney Strategy/Appendix Lydney European Sites to Policy LP.62 Harbour Area Regeneration and this should provide strong mitigation measures. Policies LP.63-LP.73 do not include specific concern for recreational impacts. It is also understood that the current Zol of 6.2km is likely to extend to 12.6km – and this will need to be taken into account in refining the site allocation policies.

HRA Recommendation:

- It is considered that the effects of each site and the potential cumulative effects of all proposed development in the Lydney area should be taken into account and each proposed site allocation

should include consistent text that protects against recreational impacts

- 5.87 The proposed sites at Newent are to accommodate about 600 new dwellings. The other non-strategic sites are located in the villages at various distances through the Severn Vale. It is considered that the increased population from these small numbers of additional dwellings at each settlement is unlikely to have significant effects from recreational use on the Severn Estuary SAC/SPA/Ramsar.
- 5.88 As regards the overall quantum of new development within 10.5km of the Estuary and the associated increase in population, a strategic mechanism for mitigation measures is in place and will be informed by the emerging findings of the Severn Estuary project. It is understood that this Zol is likely to be extended to 12.6km.
- 5.89 It is concluded that due to embedded mitigation through careful selection of proposed site allocations and provision of site-specific requirements in policy text, and the strategic mitigation being developed through the Severn Estuary project, there will be **no adverse effects on the integrity of the SAC/SPA/Ramsar from the FDLP alone.**
- 5.90 **In-combination Effects:** Such effects are most likely from the nearby adjacent local authorities – Monmouthshire, Herefordshire, GCT SLP, Stroud, South Gloucestershire, and Bristol. The most recent HRA of the emerging replacement Monmouthshire Local Development Plan (November 2022, ongoing) identified potential in-combination effects associated with the proposed residential growth in Chepstow, and considered FDDC and Stroud DC as being similar distances from the SPA/Ramsar. The HRA has concluded so far that there is insufficient data for parts of the Severn Estuary in Monmouthshire and it is understood that Monmouthshire & Torfaen authorities have jointly commissioned a visitor survey at four access points to provide in-combination data and a Zol for recreational pressures. Thus, a mechanism for mitigation measures is established.
- 5.91 The HRA of the emerging draft Herefordshire Local Plan (March 2024¹⁰³, ongoing) has concluded so far that adverse effects on the integrity of the Severn Estuary SPA/Ramsar will be avoided. The Gloucester, Cheltenham & Tewkesbury authorities are now producing a Strategic & Local Plan SLP¹⁰⁴ (review of adopted GCT JCS). Plan-making is at an early stage and the HRA is only at scoping/screening (December 2023). It may be noted that recreational pressures and the Severn Estuary SPA/Ramsar are scoped into the HRA studies.
- 5.92 The Stroud Local Plan Review is at examination. The HRA (2021) identified LSEs alone for the Severn Estuary SAC/SPA/Ramsar and as a result of the cumulative development growth within the Plan and within the 7.7km Zol determined for the Stroud area. The HRA refers to the established strategic approaches to address recreation impacts in the Severn Estuary but acknowledges that these will require updating to enable Stroud Council to be

¹⁰³ <https://www.herefordshire.gov.uk/downloads/download/2333/local-plan-regulation-18-hra-and-sa-documents>

¹⁰⁴ <https://strategiclocalplan.org/evidence-and-documents/>

confident that adverse effects on integrity, alone or in combination, can be ruled out.

- 5.93 The review of the South Gloucestershire Local Plan (Towards a Preferred Strategy, 2023) is at an early stage of development and the HRA work is only at the screening stage¹⁰⁵. It may be noted that LSEs in respect of recreational pressures and the Severn Estuary SAC/SPA/Ramsar have been screened into the HRA for further assessment.
- 5.94 The Bristol Local Plan Review (2025-2042) has been submitted for examination (April 2024)¹⁰⁶. The HRA report of the submission LP concluded that whilst there would be no adverse effects associated with recreational pressures on integrity from the plan alone, as a precautionary measure, a programme of monitoring for birds and visitor disturbance in the Bristol area should be undertaken together with a mitigation strategy as needed in consideration of in-combination effects.
- 5.95 With national and local policies encouraging more access to nature and recreational activities to improve health & wellbeing, it may be considered that recreational pressures on the estuary will increase. However, there is a strategic framework through the Severn Estuary Partnership. The relevant LPAs are all members of the Severn Estuary Partnership and thus, they will be informed by the findings of the Severn Estuary Project. The analyses of the recent visitor perception surveys undertaken will inform the need to refine and update the established mitigation measures. Therefore, **it is concluded that there will be no adverse effects of the FDLP in-combination on the site integrity of the Severn Estuary SPA/Ramsar.**

Walmore Common SPA/Ramsar

- 5.96 There are no site allocations within 2km of Walmore Common and policy mitigation is set out in the FDLP in respect of windfall or non-allocated development, including Policy LP.8 Nature Conservation Protected Sites. Therefore, **it is concluded that there will be no adverse effects, alone or in-combination, of the FDLP on the site integrity of the Walmore Common SPA/Ramsar.**

River Wye SAC & Recreational Pressures

- 5.97 The River Wye is one of the most scenic rivers in Britain. The river supports a wide range of water-based activities including canoeing, rafting and boating, as well as angling. The river is very accessible with networks of public footpaths¹⁰⁷ around and including the long distance path – the Wye Valley Walk¹⁰⁸ - following the river for some 136 miles between the Severn near Chepstow to its source. Recreational pressures need to be considered within

¹⁰⁵<https://beta.southglos.gov.uk/static/4e52baa6365be9e909eb6536434340c3/HRA-Screening-Report-2023.pdf>

¹⁰⁶<https://www.bristol.gov.uk/residents/planning-and-building-regulations/planning-policy-and-guidance/local-plan/local-plan-review>

¹⁰⁷<https://footpathmap.co.uk/county/gloucestershire/>

¹⁰⁸<https://www.wyevallywalk.org/walk>

the context of other significant tourist areas in the plan area, including the Forest of Dean, the Wye Valley National Landscape, and other cultural/historic assets such as Tintern Abbey – attracting large numbers of visitors locally and from much further away.

- 5.98 Angling, canoeing, and walking are clearly popular activities on the River Wye but there is little information on visitor numbers. The number of people angling in England in 2023¹⁰⁹ represented 0.16% of the population and angling appears to be increasing¹¹⁰. The Canal & River Trust¹¹¹ assert that nearly 2 million people in Britain go canoeing each year. The recreational pressures from angling and canoeists may directly affect protected species and/or supporting or dependent flora and fauna, for example, through cutting of Water Crowfoot beds for navigation, disturbance by canoeists of gravel bars and gravel beds for spawning affecting Atlantic Salmon, and dogs disturbing Otters.
- 5.99 The Atlantic Salmon is in a critical state but the decline is associated with water quality and quantity, especially through excessive nutrification by phosphates in the upper reaches and associated with farming practices. The recent River Wye Action Plan (April 2024) sets out measures to stop the decline of the river. The Atlantic Salmon is regulated by Environment Agency licensing and byelaws that define the fishing season and permissible methods of catching. Other fishing is not regulated.
- 5.100 Otters are widespread and dog walking is a key threat. Whilst otters are mostly nocturnal and sleep through the day when most recreational walking takes place, they can be disturbed whilst sleeping and dogs/walking can disturb the associated riparian habitat used for their foraging and shelter.
- 5.101 The River Wye forms the western boundary of the Forest of Dean district area for some 20 km and there is the potential for increased recreational disturbance from development proposals, particularly near to the river as most access is likely to be localised and typically associated with walking, dog-walking & cycling. However, there are existing mitigation measures in place that will reduce the potential impacts of recreational pressures on the features of the SAC. The Environment Agency is responsible for non-tidal navigation, mostly canoeing and rowing, and they have produced a River Wye Code of Conduct¹¹² that requires no damage to banks and vegetation, and no disturbance to gravel beds. The EA has also produced a River Wye Canoeist Guide (2011) and a Paddle Guide (March 2023) that provide information and guidance about avoiding damage and disturbance to protected wildlife. Also, canoeing guides produced by NRW and the Wye Valley National Landscape.
- 5.102 There were 10.2 million dogs in the UK (2023) equating to one dog for every 6.6 people and 34% of households have at least one dog. On average in

¹⁰⁹ <https://www.statista.com/statistics/934877/angling-participation-uk/>

¹¹⁰ <https://www.gov.uk/government/news/the-great-outdoor-escape-popularity-for-fishing-here-to-stay-as-public-desire-long-term-connection-with-nature>

¹¹¹ <https://canalrivertrust.org.uk/things-to-do/canoeing-and-kayaking-near-me/starting-canoeing-kayaking-or-paddleboarding/10-reasons-to-take-up-canoeing>

¹¹² <https://www.gov.uk/guidance/river-wye-conditions-closures-and-restrictions>

Britain dogs are taken out for a walk six times a week with each trip lasting about 48 minutes¹¹³. It is noted that national policy is to encourage access to nature for health and wellbeing – and this may well increase walking and dog-walking.

- 5.103 A ZOI has not yet been established for the River Wye and Forest of Dean designated sites. Whilst it is accepted that recreational pressures can be very locational, taking into account visitor surveys in the FDDC area for Lydney and the Severn Estuary, it seems reasonable to assume that most local walkers/recreational users will travel from a 4-5km distance but that a buffer of 10km should be applied as a precautionary measure. There are some site allocations located within 10km of the River Wye – at Coleford (some 5km east of the river) and at Beachley (less than 2 km east of the river).
- 5.104 It is considered that most recreational activities for these new residents will be dog-walking, walking and cycling, rather than angling and canoeing. Thus, mitigation measures inherent to the plan-making have been made by limiting the numbers of new dwellings in the vicinity of the River Wye. Guidance is available on the risks to nature conservation from recreational pressures and this can inform new residents. In consideration of the relatively small number of new residents in the vicinity of the River Wye, **it is concluded that there will be no adverse effects of the FDLP alone on site integrity of the SAC.**
- 5.105 **HRA Recommendations:**
- A buffer zone of 10km from the Wye Valley protected sites should be applied to proposed site allocations and policy draw attention to the potential for recreational impacts on these SACs.
- 5.106 **In-combination Effects:** Such effects are most likely from the nearby adjacent local authorities – Monmouthshire, Herefordshire, and Gloucester. It is considered that new residents in the Bristol and Stroud areas are unlikely to travel to the western side of the Severn Estuary and access into the River Wye area for routine recreational activities such as walking, dog walking, and cycling. The River Wye SAC was not scoped into the HRA of the Gloucester Plan. The most recent HRAs of the emerging replacement Monmouthshire Local Development Plan (November 2022, ongoing) and the emerging draft Herefordshire Local Plan (March 2024, ongoing) have concluded so far that these plans would have no adverse effects on the integrity of the River Wye SAC. Therefore, **it is concluded that there will be no adverse effects of the FDLP in-combination on site integrity of the River Wye SAC.**

Wye Valley & Forest of Dean Bats SAC and Wye Valley Woodlands SAC & Recreational Pressures

- 5.107 There are no ZOIs established for these SACs but 3km from a bat CSZ and up to 9km precautionary distance for foraging land seem appropriate screening zone distance to apply for site allocations in the FDLP. Site allocations that might affect bats and functionally linked land were discussed previously in this

¹¹³ <https://www.ordnancesurvey.co.uk/blog/has-walking-the-dog-made-britain-fitter>

section of the HRA report. The HRA findings and recommendations are relevant here with regard to recreational use.

- 5.108 With mitigation measures in place through careful selection of proposed site allocations and where necessary, site-specific requirements, it is concluded that there are **no adverse effects indicated on the integrity of the SAC with regard to Bats and recreational pressures, alone.**
- 5.109 **In-combination Effects:** Such effects are most likely from the nearby adjacent local authorities – Monmouthshire, Herefordshire, and Gloucester. The most recent HRA of the emerging replacement Monmouthshire Local Development Plan (November 2022, ongoing) acknowledged limited data on bats in the Wye Valley area and applied CSZs for 2km for LHBs and 3km for GHBs to identify any strategic development areas. An area at Chepstow was identified for potential concern and detailed policy requirements with mitigation possibilities have been identified for further consideration at the next stage of plan-making.
- 5.110 **HRA Recommendations:**
- The FDLP considers the potential for cumulative effects in the Chepstow and Beachley areas with regard to Bats and recreational pressures.

Changes in Water Quality & Water Quantity/Levels/Flow

- 5.111 The following habitats sites were screened in for consideration of changes to water quality and water quantity/levels, flow:
- **River Wye SAC**
 - **Severn Estuary SAC/SPA/Ramsar**
 - **Walmore Common SPA**
- 5.112 Water supply and wastewater treatment is managed by Severn Trent Water (STW) for the FDLP area. The water company produces various plans¹¹⁴ to manage the water resource: Water Resources Management Plan (WRMP); Drought Plan; Strategic Resource Options (SROs); and Drainage & Wastewater Management Plan (DWMP). Some of these plans are subject to the HRA process.
- 5.113 The HRA (2024)¹¹⁵ of the WRMP concluded that there would be no impacts to the qualifying habitat features for the Severn Estuary SAC/SPA/Ramsar (with the exception of estuaries and the migratory fish populations sub-feature) as there will be no change in volume of water downstream of the abstraction at Lickhill¹¹⁶. The sea and river lamprey population and the twaite shad

¹¹⁴ <https://www.severntrent.com/about-us/our-plans/>

¹¹⁵ <https://www.severntrent.com/content/dam/dwmp-st-v2/STdWRMP24-HRA-Issue-2-redacted.pdf>

¹¹⁶ Near Stourport on Severn & over some 40km north of the FDLP area and likely to be just beyond the known functionally linked land

population of the Severn depends on habitat in the adjacent River Usk SAC, River Wye SAC and River Severn. It is noted that there is limited understanding of the distribution of the qualifying features within the wider River Severn catchment, passability of existing weirs, and therefore extent of offsite functionally linked habitat. Information is provided to guide project level HRAs.

5.114 The Drainage & Wastewater Management Plan (DWMP, March 2023)¹¹⁷ provides information with 14 strategic planning areas (based on location of WwTWs and aligned with river basin management areas. The FDLP area is within the strategic planning area for the Lower Seven and the Level 2 Report lists known strategic partnerships and schemes:

- Forest of Dean Surface Water Forum – set up by Gloucestershire CC following major flooding in 2019 & working with partners to take a strategic overview of surface water issues and management in the Forest of Dean
- Lydney Catchment Strategy - all relevant risk management authorities, including Severn Trent, are working together to investigate long standing and complex flooding issues and to assess viability of options to reduce flood risk
- Gloucestershire Natural Flood Risk Management (NFM) & Glue Green Infrastructure (BGI) Project
- Severn Catchment Partnership – Severn Trent Water will seek ways to align and collaborate on delivering theirs as well as wider drainage and flood risk aspirations
- Severn River Basin Management Plan (RBMP) provided by the Environment Agency and including consideration of the Lower Severn strategic planning area

5.115 The DWMP notes that the EA summary of water quality for river water bodies in regard to achieving good ecological status for the Water Framework Directive (WFD) advises that 12.6% of problems are caused by water industry activity and 87.4% by other reasons (34% agriculture & rural land management; 12% urban & transport). DWMP reported that the WFD waterbody catchment Swilgate - source to conference with the River Avon is identified for improvement in the STW AMP8 submission (by 2030). In the Lower Severn, there are no discharges from our wastewater assets to chalk streams, bathing waters of shellfish area. There are no designated Drinking Water Safeguard Zones, also known as Strategic Groundwater Protection Zones (SGZs).

5.116 STW asserts that they will continue with their river pledge and ensure that we do not cause any Reasons for Not Achieving Good Status (RNAGS) within our drainage area (overflow and treatment works). They will fully comply with the new Storm Overflow Discharge Reduction Plan targets for 2030 by implementing a pragmatic balance of blue/green and grey engineering solutions. They will focus on the Defra priority areas SSSIs and SACs for removal of local ecological impact from our assets (overflows and treatment works).

¹¹⁷ <https://www.severntrent.com/about-us/our-plans/drainage-wastewater-management-plan/document-library/>

- 5.117 In 2019, the Environment Agency consulted on the most important challenges to the water environment and the findings informed the updating of RBMPs in 2022¹¹⁸. This updating included consideration of the climate emergency, the biodiversity crisis, pollution, physical modification, invasive non-native species, chemicals, plastics, and changes to water levels and flows. For each of these categories, the updating has provided specific information and guidance on the implications for habitats site protected areas.
- 5.118 This guidance - European Sites Challenges for the Water Environment (2021) – reports that water companies are investigating the measures needed to address the water industry contribution towards achieving the objectives at 39 European sites, and aiming to achieve European site objectives by 2027. The Environment Agency are working with Natural England to produce or update Diffuse Water Pollution Plans for 37 European sites. The Farming Rules for Water (2018) provide a statutory country-wide baseline for reducing agricultural phosphorus pollution. The government's Water Abstraction Plan, nested within the 25 Year Environment Plan, sets out how the Environment Agency will deliver on our commitment to addressing unsustainable abstraction through the use of existing regulated powers as well as developing a stronger catchment focus to address abstraction pressures.
- 5.119 The STW DWMP was subject to indicative HRA (2023)¹¹⁹. The HRA screening identified LSEs at the following relevant habitats sites:
- River Wye SAC – it was noted that there are potential impact pathways as salmon, shad and lamprey are dependent on the Severn Estuary to complete their life cycles. Interventions at virtually all priority Tactical Planning Units (TPUs) in the Severn catchment could potentially lead to changes in the Severn Estuary environment including in operation with LSEs.
 - Severn Estuary SAC/SPA/Ramsar - Construction effects possible within 1km at the following TPUs: Coaley, Frampton and Lydney.
 - Walmore Common SPA - Notified for Bewick's swan which are dependent on the wet grassland habitat. The site is not in hydrological connectivity to and priority TPUs. Likely significant effect 33 Therefore, there are no pathways for impacts through changes to the water environment.
 - Wye Valley & Forest of Dean Bat Sites SAC - Construction effects possible within 1km at the following TPUs: Lydney. Bat features are likely to rely on additional habitat outside the designated site. Larger scale construction within 10km of the site could occur and affect such habitat.

Thus, the potential for further project level HRAs has been identified and there is a framework for mitigation measures in place.

¹¹⁸ <https://www.gov.uk/government/publications/river-basin-management-plans-updated-2022-challenges-for-the-water-environment/river-basin-management-plans-updated-2022-challenges-for-the-water-environment>

¹¹⁹ <https://www.severntrent.com/content/dam/stw-plc/about-us/drainage-and-wastewater-management-plan/2023/SVE-fDWMP23-Appendix-11-Indicative-Habitats-Regulation-Assessment.pdf>

5.120 The Severn RBMP (2022)¹²⁰ reports that in the English part of the RBMP the majority of water bodies have an objective of good ecological status. The actions planned for the period from 2021 are expected to achieve good ecological status by 2027 in 3 of the water bodies that are not currently at good ecological status. For the remaining water bodies there is low confidence of meeting their objective by 2027.

5.121 **Mitigation Measures** are in place through various plans, strategies and partnerships, including:

- Severn Trent Water: Water Resources Management Plan; Drainage & Wastewater Management Plan
- Environment Agency: Severn RBMP
- Wye Catchment Partnership
- River Wye Action Plan
- Forest of Dean Surface Water Forum
- Severn Estuary Partnership
- Severn Estuary: Investigation Recreational Use
- Gloucestershire Natural Flood Risk Management (NFM) & Glue Green Infrastructure (BGI) Project
- Lydney Catchment Strategy

5.122 Mitigation measures are in place through FDLP **Policy LP.8 Nature Conservation Protected Sites** and Policy LP.9 Habitat and Species Protection. **Policy LP.21 Flooding & Water Conservation** requires new development to consider if it is at risk from flooding and sets out requirements that must be met, including ensuring that flood risk is not increased elsewhere and that changing risk due to climate change are taken into account. High levels of water efficiency (less than 110 litres per person per day) are required. New development should incorporate Sustainable Drainage Systems, unless it can be demonstrated that this is not appropriate in a specific location. New development should where possible employ natural management of watercourse.

5.123 **Policy LP.22 Site Conditions** addresses the potential for new development to cause pollution on site or anywhere else, including the water environment. Pollution is usually only an issue during the construction phase of new development. The use of a Construction Environmental Management Plan is established practice and provides further mitigation measures and a mechanism for ensuring that they are implemented. At project level, the Environment Agency requires that any proposals within 20m of the River SACs and their tributaries should be subject to project level construction and environmental management plans,

¹²⁰ <https://www.gov.uk/government/publications/severn-river-basin-management-plan-summary-and-cross-border-catchments-england-and-wales/severn-river-basin-management-plan-summary-and-cross-border-catchments-england-and-wales>

River Wye SAC

- 5.124 There have been declines in macrophytes, salmon and white-clawed crayfish – associated with poor water quality due to nutrient enrichment (nitrates and phosphates). This was recognised in 2010 by the Environment Agency and Natural England, culminating in the River Wye SAC Nutrient management Plan (2014)¹²¹. The aim of the plan was to manage phosphates in the River Wye SAC to enable development growth in Herefordshire. The River Wye Action Plan (April 2024)¹²² has recently been published. The conservation objectives for the River Wye SAC indicates there has been a reduction in eel population which otters rely on. It is likely that changes in the eel population is as a result of further impacts within the sea and, therefore, not relevant for the FDLP.
- 5.125 As previously discussed in this HRA report (paras 3.11-3.16), the River Wye is close to its phosphate targets at some monitoring points but levels are stable. The concerns are for the River Lugg which is upstream of the FDLP area. Climate change increases the occurrence of severe high river flow events that flood and damage riparian habitats for characteristic plant life, for example, *Ranunculus aquatilis* (Water-Crowfoot). The Atlantic salmon population is in a critical state, with annual migration numbers down to an estimated 2,000 to 3,000 a year, from 50,000, with angling catches down 94% from their peak in 1967 (NE, March 2023).
- 5.126 There are proposed site allocations at Coleford (within about 4-5 km of the River Wye and with a watercourse flowing from the settlement to the river) and at Beachley (within about 200m of the River Wye. The Coleford sites are some 4-5km distance from the River Wye SAC and only around 310 new dwellings are anticipated – therefore, with mitigation measures in place, no adverse effects indicated. The Beachley site allocations (LP.78, LP.79 & LP.80) are close to the river and its confluence with the Severn Estuary. Policy LP.78 Beachley Barracks (about 600 new dwellings) requires new development to demonstrate how it will manage the recreational pressures on the Severn Estuary; and schemes will need to demonstrate long term resilience in respect of flooding – all to be implemented through an agreed masterplan.
- 5.127 Policy LP.79 Land South of A48 at Tutshill (about 180 dwellings) and Policy LP.80 Land adjoining Wyedean School also include policy text requiring new development due to the proximity to the Severn Estuary to demonstrate adequate mitigation for recreational pressures.
- 5.128 Himalayan balsam, Japanese knotweed, American skunk cabbage and giant hogweed (for example) are invasive non-native species found in the River Wye. Usually, such species are only introduced from new development at the construction phase, associated with construction materials – but also landscaping and provision of GI.

¹²¹ <https://www.gov.uk/government/publications/nutrient-management-plan-river-wye>

¹²² <https://www.gov.uk/government/publications/river-wye-action-plan/river-wye-action-plan>

5.129 **HRA Recommendations:**

- Policies LP.78-LP.80 should also consider effects on the River Wye in respect of water and recreational pressures
- Policies LP.78-LP.80 should also consider the potential for invasive species and the water environment – policy or supporting text?

5.130 If the additional policy mitigation is applied, then it is considered that the FDLP will have **no adverse effects alone on the integrity of the River Wye SAC with regard to water.**

5.131 **In-combination Effects:** Such effects are most likely from the nearby adjacent local authorities – Monmouthshire and Herefordshire. The most recent HRA of the emerging replacement Monmouthshire Local Development Plan (November 2022, ongoing) noted that the most significant issue in relation to the Monmouthshire RLDP is the discharge of treated sewage effluent into surface watercourses, which is likely to increase the nutrient concentration, most importantly phosphate levels, in habitats sites that are hydrologically linked to these watercourses. The HRA of the emerging draft Herefordshire Local Plan (March 2024¹²³, ongoing) has concluded that there are no adverse effects on the integrity of the River Wye SAC (screened out for water).

5.132 HRA Recommendation:

- It is considered that a precautionary approach should be taken to in-combination effects with the emerging Monmouthshire LDP at Chepstow and this could be draw attention to in the Policies LP.78-LP.80.

Severn Estuary SAC/SPA/Ramsar

5.133 There are proposed site allocations at Beachley area less than 200m from the Severn Estuary site - LP.78 Beachley Barracks; LP.79 Land South of A48 at Tutshill; and LP.80 Land adjoining Wyedean School. As discussed above for the River Wye SAC, these policies include site-specific requirements in relation to recreational pressures and Policy LP.21 Flooding & Water Conservation, and LP.22 Site Conditions also apply. However, it is considered that a precautionary approach would indicate inclusion of something on water quality & quantity in Policy LP.78.

HRA Recommendation:

- Policy LP.78 Beachley Barracks – add specific consideration of water quality/quantity and impacts on the Severn Estuary Habitats sites

5.134 There are proposed site allocations at Lydney close to the estuary site, and as previously discussed in this HRA report in relation to recreational pressures, site-specific mitigation measures are set out in the Policy LP.62 - new development should demonstrate... *“their compatibility with the Habitats*

¹²³ <https://www.herefordshire.gov.uk/downloads/download/2333/local-plan-regulation-18-hra-and-sa-documents>

Regulations. The Special requirements as set out in Appendix "Lydney European Sites" apply. Development proposals will be required to demonstrate that they will not have an adverse impact on protected sites... Proposals must take account of flood risk."

- 5.135 FDLP Policy LP.41 Reinstatement of the Herefordshire & Gloucestershire Canal continues support by protecting land from other development. The supporting text includes: "Overall the canal like other development will be expected to make a positive contribution to the area through which it passes especially in respect of its impact on the landscape, recreational benefits, biodiversity benefits and provision of green infrastructure". The canal joins the River Severn just to the west of Gloucester and requirements for compliance with the HRA Regulations will apply.

HRA Recommendation:

- Policy LP.41 Reinstatement of the Herefordshire & Gloucestershire Canal should include specific requirements regarding water quality, quantity/flow, and functionally linked land for protection of Habitats sites.

- 5.136 If the additional policy mitigation is applied, then it is considered that the FDLP will have **no adverse effects alone on the integrity of the Severn Estuary SAC/SPA/Ramsar with regard to water.**

- 5.137 **In-combination Effects:** Such effects are most likely from the nearby adjacent local authorities – Monmouthshire, Herefordshire, GCT SLP, Stroud, South Gloucestershire, and Bristol. The HRAs of these plans have not identified any in-combination effects with regard to water quality and water quantity. Therefore, it is considered that the FDLP will have **no adverse effects, alone or in-combination, on the integrity of the Severn Estuary SAC/SPA/Ramsar with regard to water quality and water quantity.**

Walmore Common SPA

- 5.138 This wetland site is closely linked with the River Severn and any activities that may impact the river water quality and quantity may affect the wetland. There are no site allocations within 2km and it is considered that the mitigation measures provided through FDLP policies are sufficient to **no adverse effects alone on the integrity of the River Wye SAC with regard to water quality and water quantity.**

6.0 RECOMMENDATIONS & CONCLUSIONS

- 6.1 The HRA screening stage identified five Habitats sites for which there is the potential for Likely Significant Effects (LSEs) from the new development proposed in the draft Forest of Dean Local Plan (FDLP). Potential LSEs associated with functionally linked land, recreational pressures, and water quality and water quantity/levels/flow were indicated for the Severn Estuary SAC/SPA/Ramsar, the River Wye SAC, and the Walmore Common SPA/Ramsar. Disturbance from noise, vibration and/or light was also indicated for the Severn Estuary and Walmore Common protected sites. Migratory birds, fish and otters may be affected.
- 6.2 Potential LSEs associated with functionally linked land, disturbance from noise, vibration and/or light, and recreational pressures were indicated for the Wye Valley & Forest of Dean Bats SAC and the Wye Valley Woodlands SAC. Bats are likely to be affected and it was noted that the characteristics of these two SACs are closely related with the functionally linked land covering much of the area of the FDLP. The potential for LSEs arising from deposition of atmospheric nitrogen was identified for all the habitats sites scoped into the HRA process.
- 6.3 The draft policies in the emerging FDLP were screened against the potential for LSEs. If there was no reasonable scientific doubt as to the effects of a policy on the integrity of the habitats site, for example, because the policy in itself would not result in development or there were no identified environmental pathways for such effects, no further action was taken. However, for many of the policies, such certainty of no effects could not be determined and these policies that promote/allocate new development were taken forward to the appropriate assessment stage of the HRA process.
- 6.4 Mitigation measures to address likely adverse effects are available through other policies in the FDLP, for example, Policy LP.8 Nature Conservation – Protected Sites, and through the selection of proposed site allocations with their capacity/location and site-specific requirements for new development.
- 6.5 **Policy LP.8 Nature Conservation – Protected Sites:** The assessment concluded that the policy is explicit that requirements for no adverse effects from development apply to designated land and functionally linked land – thus providing strong mitigation. The policy also recognises that project level appropriate assessment may be necessary as new development is required to demonstrate that it “will not have an adverse effect on the protected sites”. The policy clearly explains that adverse effects should consider any development project alone – and in combination with other developments.
- 6.6 The assessment noted that there is some discussion of how the habitats sites themselves may “*depend on wider areas*”, for example, the bat SAC sites. There is some mention of Zones of Influence (ZOIs) with regard to the Severn Estuary. As much work has been done since the previous FDLP on functionally

linked land – its extent and its implications for LSEs and mitigation – **it is recommended** that the supporting text provides more explanation for the Severy Estuary and the Wye Valley habitats sites. It is also recommended the Severn Estuary Partnership studies on recreational effects and Zols are referenced. The FDDC guidance on bats (July 2021) with its suggestions for surveys and assessment, together with maps of bat roosts and functionally linked land, should also be referenced.

- 6.7 **Nitrogen Deposition:** At this stage of plan-making and available information, it is concluded that there will be no LSEs associated with nitrogen deposition from the FDLP alone and no adverse effects on the integrity of the SACs. It is possible that there may be in-combination effects with new development proposed in the Chepstow and Beachley areas such that **it is recommended** that the emerging new Monmouthshire LDP and its HRA will be monitored as the extent and location of the proposed development becomes clearer.
- 6.8 **Loss or Damage to Functionally Linked Land - Bats:** The assessment found some inconsistency in wording with regard to requirements for new development and HRA. It is recommended that policy wording should include standard wording to align with requirements of the HRA Regulations – *“The development should demonstrate that there will be no adverse effects, alone or in combination, on the integrity of the SAC, SPA and Ramsar sites.”*
- 6.9 Taking into account the inter-relatedness of the two Wye Valley SACs and the extent of functionally linked land relevant for Bats throughout the area, and to ensure consistency of policy guidance, **it is recommended** that each site allocation includes the same policy wording with regard to Bats and ensuring no loss of integrity to habitats sites. The assessment indicated that there is the potential for adverse effects on functionally linked land for all the proposed site allocations. It would be helpful if the FDDC guidance on bats (July 2021) is referenced as this will inform and guide project level HRAs, as necessary. This could be mentioned in Policies LP.27 Strategic Sites, LP.28 Other Housing Sites, and LP.29 Housing Delivery, as these policies set the context for the specific site allocations.
- 6.10 **Noise & Light Disturbance:** The assessment noted that light disturbance to bats may affect functionally linked land, as well as the protected sites themselves – and that this effectively covers most of the FDDC area. **It is recommended** that this is drawn attention to in Policy LP.8 Nature Conservation – Protected Sites. It is recommended that the Council consider the possibilities for a Dark Skies Policy – as this would contribute to reducing the potential adverse effects from light.
- 6.11 **Recreational Pressures:** The assessment identified that the effects of each site and the potential cumulative effects of all proposed development in the Lydney area should be taken into account. **It is recommended** that each proposed site allocation should include consistent text that protects against recreational impacts and implications for the Severy Estuary habitats site, including functionally linked land for birds and fish, taking into account the Zol. It is noted that the findings of the recent visitor surveys through the Severn Estuary Partnership are still being analysed but it is anticipated that the

current Zol of 6.2km will extend to 12.6km, such that all relevant site allocations will need to be addressed in the next stage of plan-making.

- 6.12 There are no Zols for the Wye Valley habitats sites and recreational impacts with regard to birds, fish or bats. The assessment identified that, as a precautionary measure, a buffer of 10 km could be applied to guide any refinement of site allocation wording. The assessment identified that there could be the potential for increased recreational pressures and in-combination effects from the new development proposed around Chepstow and Beachley. **It is recommended** that the emerging new Monmouthshire LDP and its HRA will be monitored as the extent and location of the proposed development becomes clearer.
- 6.13 **Changes to Water Quality or Water Quantity/Levels/Flow: It is recommended** that site allocation Policies LP.78, LP.79 & LP.80 should also consider effects on the River Wye SAC in respect of water quality and recreational pressures. **It is recommended** that Policy LP.78 Beachley Barracks should add specific consideration of water quality/quantity and impacts on the Severn Estuary Habitats sites. **It is recommended** that a precautionary approach should be taken to in-combination water quality and quantity effects with the emerging Monmouthshire LDP at Chepstow and this could be drawn attention to in the Policies LP.78-LP.80.
- 6.14 **It is recommended** that Policy LP.41 Reinstatement of the Herefordshire & Gloucestershire Canal should include specific requirements regarding water quality, quantity/flow, and functionally linked land for protection of habitats sites.

Conclusions

- 6.15 In consideration of current information, and assuming that the recommendations for mitigation measures are implemented, it may be concluded that there will be no adverse effects, alone or in combination, from the draft Forest of Dean Local Plan on the integrity of the SAC, SPA and Ramsar sites.
- 6.16 As the FDLP is further refined taking into account comments from the Regulation 18 public consultation and including from the statutory nature conservation bodies NE and NRW, policy wording may be refined and site allocations amended.