

Mavesyn Ridware

Report to Inform Habitats Regulations Assessment

Mavesyn Ridware Neighbourhood Plan Group

January 2024

Quality information

<u>Prepared by</u>	<u>Checked by</u>	<u>Verified by</u>	<u>Approved by</u>
Laura Dodd Graduate Ecologist	Amelia Kent Principal Ecologist	James Riley Technical Director	James Riley Technical Director

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Prepared for:

Mavesyn Ridware Neighbourhood Plan Group

Prepared by:

AECOM Limited
Midpoint, Alencon Link
Basingstoke
Hampshire RG21 7PP
United Kingdom

T: +44(0)1256 310200
aecom.com

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1. Introduction

- 1.1 AECOM was appointed by Mavesyn Ridware Parish Council to undertake a Report to Inform the Habitats Regulations Assessment (HRA) of the Mavesyn Ridware Neighbourhood Plan. This is to inform the parish council and local council of the potential effects of Neighbourhood Plan (NP) development on Habitat sites (Special Areas of Conservation, SACs, Special Protection Areas, SPAs, and Ramsar sites designated under the Ramsar convention), and how they are being, or should be, addressed in the draft NP.
- 1.2 The Mavesyn Ridware Neighbourhood Plan contains policies on living and working, place and heritage, green environment, and infrastructure.
- 1.3 The objective of this report is to identify if any policies and / or sites proposed for potential allocation in the Mavesyn Ridware Neighbourhood Plan have the potential to cause Likely Significant Effects (LSEs) and, where identified, adverse effects on the integrity of Habitat sites, either in isolation or in combination with other plans and projects, and to determine whether site-specific or policy mitigation measures are required.

Local Context

- 1.4 The parish of Mavesyn Ridware is located to the north-eastern boundary of Rugeley town and approximately 6km to the north of Lichfield City. The Parish extends to approximately 1,337 hectares of largely rural, agricultural land.
- 1.5 As of the 2021 census, 1,264 people live in Mavesyn Ridware. The Parish contains the villages of Hill Ridware (largest settlement with around 400 dwellings), Mavesyn Ridware, Blithbury and Pipe Ridware, all of which lie between the River Trent and the River Blythe.
- 1.6 The residents of Mavesyn Ridware Parish want to protect the identity of their separate villages and support them to become stronger, safer and more sustainable communities.

Legislative Context

- 1.7 The United Kingdom (UK) left the European Union (EU) on 31 January 2020 under the terms set out in the European Union (Withdrawal Agreement) Act 2020 ("the Withdrawal Act"). The Withdrawal Act retains the body of existing EU-derived law within our domestic law. The most recent amendments to the Habitats Regulations – the Conservation of Habitats and Species (Amendment) (EU Exit) Regulations 2019 – make it clear that the need for HRA continues post-Brexit.
- 1.8 The HRA process applies the 'Precautionary Principle'¹ to Habitat sites. Plans and projects can only be permitted having ascertained that there will be no adverse effect on the integrity of the Habitat site(s) in question. Plans and projects with predicted adverse impacts on Habitat sites may still be permitted if

¹ The Precautionary Principle, which is referenced in Article 191 of the Treaty on the Functioning of the European Union, has been defined by the United Nations Educational, Scientific and Cultural Organisation (UNESCO, 2005) as: "*When human activities may lead to morally unacceptable harm [to the environment] that is scientifically plausible but uncertain, actions shall be taken to avoid or diminish that harm. The judgement of plausibility should be grounded in scientific analysis*".

there are no alternatives to them and there are Imperative Reasons of Overriding Public Interest (IROPI) as to why they should go ahead. In such cases, compensation would be necessary to ensure the overall integrity of the site network.

- 1.9 The need for Appropriate Assessment (AA, Box 1) is set out in the Conservation of Habitats and Species Regulations 2017 (as amended).

Box 1: The legislative basis for Appropriate Assessment

Conservation of Habitats and Species Regulations 2017 (As Amended)

With specific reference to Neighbourhood Plans, Regulation 106(1) states that:

“A qualifying body which submits a proposal for a neighbourhood development plan must provide such information as the competent authority [the Local Planning Authority] may reasonably require for the purpose of the assessment under regulation 105... [which sets out the formal process for determination of ‘likely significant effects’ and the appropriate assessment].”

- 1.10 It is therefore important to note that this report has two purposes:

- To assist the Qualifying Body (Mavesyn Ridware Parish Council) in preparing their plan by recommending (where necessary) any adjustments required to protect Habitat sites, thus making it more likely their plan will be deemed compliant with the Conservation of Habitats and Species Regulations 2017 (as amended); and
- On behalf of the Qualifying Body, to assist the Local Planning Authority (Lichfield District Council) to discharge their duty under Regulation 105 (in their role as ‘plan-making authority’ within the meaning of that regulation) and Regulation 106 (in their role as ‘competent authority’) and reach the formal HRA decision.

- 1.11 As ‘competent authority’, the legal responsibility for ensuring that a decision of LSEs is made, an AA (where required) is undertaken, and Natural England are consulted, falls on the local planning authority. However, they are entitled to request from the Qualifying Body the necessary information on which to base their judgment and that is a key purpose of this report.

- 1.12 Over the years, the term HRA has come into wide currency to describe the overall process set out in the Habitats Regulations, from screening through to identification of IROPI. This has arisen to distinguish the overall process from the individual stage of AA. Throughout this report the term HRA is used for the overall process and the use of AA is restricted to the specific stage of that name.

- 1.13 In spring 2018 the ‘Sweetman’ European Court of Justice ruling² clarified that ‘mitigation’ (i.e., measures that are specifically introduced to avoid or reduce a harmful effect on a Habitat site that would otherwise arise) should **not** be considered when forming a view on LSEs. Mitigation should instead only be considered at the AA stage. This HRA has been cognisant of that ruling.

² People Over Wind and Sweetman v Coillte Teoranta (C-323/17)

Scope of the HRA

1.14 There are no standard criteria for determining the ultimate physical scope of an HRA of a Plan document. Therefore, in considering the physical scope of the assessment, we were guided primarily by the identified impact pathways (called the source-pathway-receptor model) rather than by arbitrary 'zones'. Current guidance suggests that the following international sites be included in the scope of assessment:

- All sites within the boundary of Mavesyn Ridware; and,
- Other sites shown to be linked to development within the Parish boundary through a known impact 'pathway' (discussed below).

1.15 Briefly defined, impact pathways are routes by which the implementation of a policy within a Neighbourhood Plan document can lead to an effect upon a Habitat site. An example of this would be new residential development resulting in an increased population and thus increased recreational pressure, which could then affect Habitat sites by, for example, disturbance of wintering or breeding birds.

1.16 Guidance from the Department for Levelling Up, Housing and Communities (DLUHC) formerly the Ministry of Housing, Communities and Local Government (MHCLG) states that the HRA should be '*proportionate to the geographical scope of the [plan policy]*' and that '*an AA need not be done in any more detail, or using more resources, than is useful for its purpose*' (MHCLG, 2006, p.6)³. More recently, the Court of Appeal ruled that providing the Council (competent authority) was duly satisfied that proposed mitigation could be 'achieved in practice' to satisfy that the proposed development would have no adverse effect, then this would suffice. In this case the High Court ruled that for 'a multistage process, so long as there is sufficient information at any particular stage to enable the authority to be satisfied that the proposed mitigation can be achieved in practice it is not necessary for all matters concerning mitigation to be fully resolved before a decision maker is able to conclude that a development will satisfy the requirements of Reg 61 of the Habitats Regulations'.

The Layout of this Report

1.17 **Chapter 2** of this report explains the methodology by which this HRA has been carried out, including the three essential tasks that form part of HRA. **Chapter 3** provides details of the relevant Habitat sites, including Conservation Objectives and current pressures and threats. **Chapter 4** provides detailed background on the main impact pathways identified in relation to the RNP and the relevant Habitat sites. **Chapter 5** undertakes the screening assessment of LSEs of the Plan policies and sites potentially proposed for allocation. The Appropriate Assessment is contained in **Chapter 6**, while the conclusions and recommendations arising from the HRA process are provided in **Chapter 7**.

Quality Assurance

1.18 This report was undertaken in line with AECOM's Integrated Management System (IMS). Our IMS places great emphasis on professionalism, technical

³ MHCLG (2006) Planning for the Protection of Habitat sites, Consultation Paper

excellence, quality, environmental and Health and Safety management. All staff members are committed to establishing and maintaining our certification to the international standards BS EN ISO 9001:2015 and 14001:2015, ISO 44001:2017 and ISO 45001:2018. In addition, our IMS requires careful selection and monitoring of the performance of all sub-consultants and contractors.

- 1.19 All AECOM Ecologists working on this project are members (at the appropriate level) of the Chartered Institute of Ecology and Environmental Management (CIEEM) and follow their code of professional conduct (CIEEM, 2017).

2. Methodology

Introduction to HRA Methodology

- 2.1 The HRA will be carried out with reference to the general EC guidance on HRA⁴ and that of the UK government⁵.
- 2.2 Figure 1 below outlines the stages of HRA. The stages are essentially iterative, being revisited as necessary in response to more detailed information, recommendations and any relevant changes to the Plan until no significant adverse effects remain.

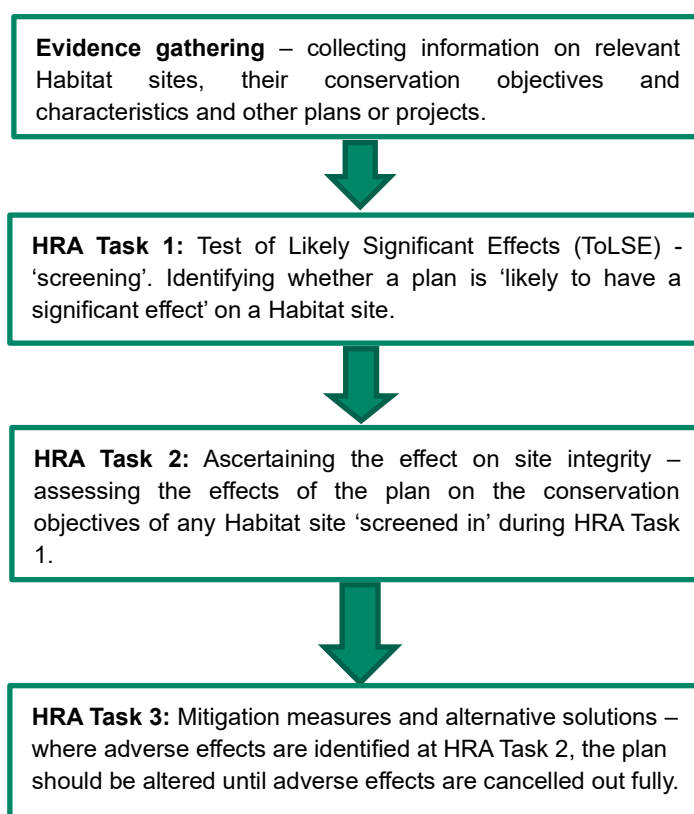


Figure 1: Four Stage Approach to Habitats Regulations Assessment. Source EC, 2011.

Description of HRA Tasks

HRA Task 1 – Likely Significant Effects (LSEs) Screening

- 2.3 Following evidence gathering, the first stage of any Habitats Regulations Assessment is a LSEs screening - essentially a brief, high-level assessment to decide whether the full subsequent stage known as AA is required. The essential question is:

“Is the project, either alone or in combination with other relevant projects and plans, likely to result in a significant effect upon Habitat sites?”

⁴ European Commission (2001): Assessment of plans and projects significantly affecting Natura 2000 Sites: Methodological Guidance on the Provisions of Article 6(3) and 6(4) of the Habitats Directive.

⁵ <https://www.gov.uk/guidance/appropriate-assessment>

- 2.4 The objective is to ‘screen out’ those plans and projects that can, without any detailed appraisal, be concluded to be unlikely to result in significant adverse effects upon Habitat sites, usually because there is no mechanism for an adverse interaction.
- 2.5 The LSEs screening is based on identification of the impact source, its pathway to receptors and an appraisal of the specific Habitat site receptors. These are normally designated features but also include habitats and species fundamental for designated features to achieve favourable conservation status (notably functionally linked habitats outside the Habitat site boundary).
- 2.6 In the Waddenzee case⁶, the European Court of Justice ruled on the interpretation of Article 6(3) of the Habitats Directive, including that:
- An effect should be considered ‘likely’, “if it cannot be excluded, on the basis of objective information, that it will have a significant effect on the site” (para 44);
 - An effect should be considered ‘significant’, “if it undermines the conservation objectives” (para 48); and
 - Where a plan or project has an effect on a site “but is not likely to undermine its conservation objectives, it cannot be considered likely to have a significant effect on the site concerned” (para 47).
- 2.7 The LSEs screening consists of two parts: Firstly, it should determine whether there are any policies that could result in negative impact pathways and secondly it establishes whether there are any Habitat sites that might be affected. It identifies Habitat sites that are most likely to be impacted by the Plan and the impact pathways that are most likely to require consideration.
- 2.8 It is important to note that LSEs screening must generally follow the precautionary principle as its main purpose is to determine whether the subsequent stage of AA (i.e., a more detailed investigation) is required.

HRA Task 2 – Appropriate Assessment

- 2.9 Where it is determined that a conclusion of ‘no LSEs’ cannot be drawn, the analysis must proceed to the next stage of HRA known as AA. Case law has clarified that AA is not a technical term. In other words, there are no particular technical analyses, or level of technical analysis, that are classified by law as belonging to AA rather than the screening process. AA refers to whatever level of assessment is appropriate to form a conclusion regarding effects on the integrity (coherence of structure and function) of Habitat sites in light of their Conservation Objectives.
- 2.10 By virtue of the fact that it follows LSEs screening, there is a clear implication that the analysis will be more detailed than undertaken at the previous stage. One of the key considerations during AA is whether there is available mitigation that would entirely address the potential effect. In practice, the AA would take any policies or proposed sites that could not be dismissed following the high-level screening analysis and evaluate the potential for an effect in more detail, with a view to concluding whether there would be an adverse effect on site integrity (in

⁶ Case C-127/02

other words, disruption of the coherent structure and function of the Habitat site(s)).

- 2.11 In 2018 the Holohan ruling⁷ handed down by the European Court of Justice included among other provisions paragraph 39 of the ruling stating that ‘*As regards other habitat types or species, which are present on the site, but for which that site has not been listed, and with respect to habitat types and species located outside that site, ... typical habitats or species must be included in the appropriate assessment, if they are necessary to the conservation of the habitat types and species listed for the protected area*’ [emphasis added].
- 2.12 In evaluating significance, AECOM will rely on professional judgement as well as the results of bespoke studies, supported by appropriate evidence/data, and previous stakeholder consultation regarding the impacts of development on the Habitat sites considered within this assessment.

HRA Task 3 – Mitigation

- 2.13 Where necessary, measures will be recommended for incorporation into the Plan in order to avoid or mitigate adverse effects on Habitat sites. For example, there is considerable precedent, both nationally and locally, concerning the level of detail that a Plan document needs to contain regarding mitigation for recreational impacts on Habitat sites. The implication of this precedent is that it is not necessary for all measures that will be deployed to be fully developed prior to adoption of the Plan, but the Plan must provide an adequate policy framework within which these measures can be delivered.
- 2.14 When discussing ‘mitigation’ for a NP document, one is concerned primarily with the policy framework to enable the delivery of such mitigation rather than the detail of the mitigation measures themselves since the NP document is a higher level policy document.

Geographical Scope of the HRA

- 2.15 There are no standard criteria for determining the ultimate physical scope of an HRA. Rather, the source-pathway-receptor model should be used to determine whether there is any potential pathway connecting development to any Habitat sites.
- 2.16 In the case of the Mavesyn Ridware Neighbourhood Plan, an area extending to 10km from the Parish boundary was selected in which Habitat sites were identified. Habitat sites with hydrological sensitivities were also considered. A search radius of 10km has been used for this analysis on the basis that any potential for aquatic pollution effects at greater distances is likely to be negligible due to dilution factors.

Confirming Other Plans and Projects That May Act ‘In Combination’

- 2.17 It is a requirement of the Regulations that the impacts of any land use plan being assessed are not considered in isolation but in combination with other plans and projects that may also be affecting the Habitat site(s) in question.

⁷ Case C-461/17

2.18 In considering the potential for combined regional housing development to impact on Habitat sites the primary consideration is the impact of visitor numbers – i.e., recreational pressure and urbanisation.

2.19 When undertaking this part of the assessment it is essential to bear in mind the principal intention behind the legislation i.e., to ensure that those projects or plans (which in themselves may have minor impacts) are not simply dismissed on that basis but are evaluated for any cumulative contribution they may make to an overall significant effect. In practice, in combination assessment is therefore of greatest relevance when the plan or policy would otherwise be screened out because its individual contribution is inconsequential.

2.20 The following plans are considered to have the potential to act in-combination with the Mavesyn Ridware Neighbourhood Plan:

- Lichfield District Council Local Plan Strategy 2008 - 2029 (Adopted 17 February 2015)⁸ (new Local Plan currently being developed)
- South Staffs Water – Water Resources Management Plan (2019)⁹

2.21 It should be noted that, while the broad potential impacts of these other projects and plans have been considered, this assessment does not undertake full HRA on each of these plans. Instead, existing HRAs that have been carried out for surrounding authorities and plans were drawn upon.

⁸ [Lichfield District, Local Plan Strategy 2008 - 2029 \(lichfielddc.gov.uk\)](https://www.lichfielddc.gov.uk) [Accessed November 2023]

⁹ <https://www.south-staffs-water.co.uk/media/2676/final-wrmp-2019-south-staffs-water.pdf> [Accessed November 2023]

3. Habitat sites

3.1 In the case of the Mavesyn Ridware Neighbourhood Plan, it has been determined that the Habitat sites identified in Table 1 require consideration.

Table 1. Habitat sites for consideration and their location in relation to the Mavesyn Ridware Parish boundary.

Habitat site	Location (at its closest point) and reason for inclusion
Cannock Chase SAC	4.4km west of the Mavesyn Ridware Parish boundary Susceptible to public access/recreational pressure and air pollution: impact of atmospheric nitrogen deposition
Midland Meres & Mosses – Phase 1 Ramsar	8.6km north-west of the Mavesyn Ridware Parish boundary Susceptible to water pollution (eutrophication)
River Mease SAC	9.8km south-east of the Mavesyn Ridware Parish boundary Susceptible to water pollution
West Midlands Mosses SAC	8.6km north-west of the Mavesyn Ridware Parish boundary Susceptible to water pollution and air pollution: impact of atmospheric nitrogen deposition

Source: Multi Agency Geographic Information for the Countryside
www.magic.defra.gov.uk

3.2 This was based upon a search of surrounding Habitat sites and the vulnerabilities of their designated features. All the above sites were subjected to the initial screening exercise. It should be noted that the presence of a conceivable pathway linking the parish to a Habitat site does not mean that LSEs will occur.

3.3 The following Habitat site was also considered:

- Pasturefields Salt Marsh SAC

3.4 This site is 9.3km from the Mavesyn Ridware parish boundary. According to the Site Improvement Plan¹⁰ this site has no issues or susceptibilities. Therefore, this site has been discounted.

3.5 The reason for designation, Conservation Objectives and environmental vulnerabilities of the Habitat sites are detailed below.

¹⁰ <https://publications.naturalengland.org.uk/publication/5513486415167488> [Accessed November 2023]

Cannock Chase SAC

Introduction

3.6 The area of lowland heathland at Cannock Chase is the most extensive in the Midlands. The character of the vegetation is intermediate between the upland or northern heaths of England and Wales and those of southern counties. Dry heathland communities are of the heather – western gorse (*Calluna vulgaris* – *Ulex gallii*) and heather – wavy hair-grass (*Calluna vulgaris* – *Deschampsia flexuosa*) types. Within the heathland, species of northern latitudes occur, such as cowberry *Vaccinium vitis-idaea* and crowberry *Empetrum nigrum*. Cannock Chase has the main British population of the hybrid bilberry *Vaccinium intermedium*, a plant of restricted occurrence. The scarcity of water over much of the Chase effectively confines wetland flora and fauna to the stream valley systems and a scatter of natural and artificial pools and damp depressions. The Oldacre and Sherbrook valleys have small-scale mosaics of spring-fed mire and wet heath vegetation, a result of complex water chemistry. Where acidic conditions prevail, the mires are mostly formed of bog mosses *Sphagnum* spp. with cranberry *Vaccinium oxycoccus*, cottongrasses *Eriophorum* spp. and cross-leaved heath *Erica tetralix*.

Reason for Designation¹¹

3.7 Qualifying Annex I habitats:

- Northern Atlantic wet heaths with *Erica tetralix*; Wet heathland with cross-leaved heath
- European dry heaths

Conservation Objectives

3.8 “With regard to the SAC and the natural habitats and/or species for which the site has been designated (the ‘Qualifying Features’ listed above), and subject to natural change;

3.9 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
- The structure and function (including typical species) of qualifying natural habitats, and,
- The supporting processes on which the qualifying natural habitats rely.”

Current Pressures and Threats

3.10 The Site Improvement Plan¹² identifies the following pressures and threats to the SAC:

- Undergrazing

¹¹ <http://publications.naturalengland.org.uk/publication/6687924741472256>

¹² <http://publications.naturalengland.org.uk/publication/4957799888977920>

- Drainage
- Hydrological changes
- Disease
- Air Pollution: impact of atmospheric nitrogen deposition
- Wildfire/ arson
- Invasive species

3.11 The Site Improvement Plan (2019) should be read in conjunction with the Supplementary Advice on Conservation Objectives (2017)¹³.

3.12 Public access/Recreational pressure from new housing developments has also been identified as being potentially harmful to habitat value¹⁴.

Midland Meres & Mosses – Phase 1 Ramsar

Introduction¹⁵

3.13 The Meres & Mosses form a geographically discrete series of lowland open water and peatland sites in the north-west Midlands of England. These have developed in natural depressions in the glacial drift left by receding ice sheets which formerly covered the Cheshire/Shropshire Plain. The 16 component sites include open water bodies (meres), the majority of which are nutrient-rich with associated fringing habitats; reed swamps, fen, carr & damp pasture. Peat accumulation has resulted in nutrient poor peat bogs (mosses) forming in some sites in the fringes of meres or completely infilling basins. In a few cases the result is a floating quaking bog or schwingmoor. The wide range of resulting habitats support nationally important flora & fauna.

Reason for Designation

3.14 Ramsar criterion 1:

- The site comprises a diverse range of habitats from open water to raised bog.

3.15 Ramsar criterion 2:

- Supports a number of rare species of plants associated with wetlands including five nationally scarce species together with an assemblage of rare wetland invertebrates (three endangered insects and five other British Red Data Book species of invertebrates).

Current Pressures and Threats

3.16 The Information Sheet on Ramsar Wetlands identifies additional factors (past, present, or potential) adversely affecting the site's ecological character:

- Eutrophication

¹³ [Designated Sites View \(naturalengland.org.uk\)](https://www.naturalengland.org.uk) [Accessed October 2023]

¹⁴ <https://www.lichfielddc.gov.uk/downloads/file/303/cannock-chase-sac-guidance-to-mitigate> [Accessed November 2023]

¹⁵ <https://jncc.gov.uk/our-work/ramsar-sites/> [Accessed November 2023]

- Introduction/invasion of non-native plant species

River Mease SAC

Introduction

- 3.17 Rising in the Coal Measures of north-west Leicestershire, the River Mease flows approximately 25 kilometres westwards across a largely rural and agricultural landscape to its confluence with the River Trent at Croxall. As a relatively unmodified lowland river, the River Mease contains a diverse range of physical in-channel features, including riffles, pools, slacks, vegetated channel margins and bankside tree cover, which provide the conditions necessary to sustain populations of spined loach *Cobitis taenia*, bullhead *Cottus gobio*, freshwater white-clawed crayfish *Austropotamobius pallipes* and otter *Lutra lutra*.
- 3.18 The head of the site includes the lower reaches of the Gilwiskaw Brook which flows along a steep gradient. Due to the fast-flowing nature of the river, aquatic vegetation is sparse and marginal vegetation restricted to stands of floating sweet-grass *Glyceria fluitans* but these sections provide valuable habitat for bullhead, which favours clean coarse gravels for spawning. Populations of bullhead also occur in the lower reaches of the Mease where river substrates are finer but woody debris lying within the river channel becomes more important in providing suitable breeding habitat.
- 3.19 Below Snarestone the descent becomes more gradual and the river enters a broad lowland floodplain. These middle reaches of the River Mease provide excellent habitat for spined loach *Cobitis taenia*. This largely sedentary fish is closely associated with the open sandy substrates of the river bed which act as important feeding and spawning grounds. Refuges from predators and strong river flows are very important and are provided by aquatic and marginal vegetation within the river channel.
- 3.20 Stands of marginal vegetation are typically dominated by common club-rush *Schoenoplectus lacustris*, floating sweet-grass, reed canary-grass *Phalaris arundinacea*, branched bur-reed *Sparganium erectum*, greater pond sedge *Carex riparia* and bulrush *Typha latifolia*. Submerged aquatic vegetation becomes more varied on the lower reaches of the river with river water-crowfoot *Ranunculus fluitans*, common water-crowfoot *R. aquatilis*, blunt-leaved pondweed *Potamogeton obtusifolius*, fennel pondweed *P. pectinatus*, arrowhead *Sagittaria sagittifolia* and yellow water-lily *Nuphar lutea* becoming increasingly frequent.
- 3.21 Bankside tree cover is very variable but an important feature of the river channel as submerged root systems of larger trees provide important in-channel cover for fish and provide woody debris to the watercourse in the form of fallen branches.

Reason for Designation

3.22 Qualifying Annex I habitats:

- Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitriche-Batrachion* vegetation. (Rivers with floating vegetation often dominated by water-crowfoot).

3.23 Qualifying Annex II species:

- White-clawed (or Atlantic stream) crayfish *Austropotamobius pallipes*
- Spined loach *Cobitis taenia*
- Bullhead *Cottus gobio*
- Otter *Lutra lutra*

Conservation Objectives¹⁶

3.24 “With regard to the SAC and the natural habitats and/or species for which the site has been designated (the ‘Qualifying Features’ listed above), and subject to natural change;

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

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

Current Pressures and Threats

3.26 The Site Improvement Plan¹⁷ identifies the following pressures and threats to the SAC:

- Water Pollution
- Drainage
- Inappropriate weirs, dams and other structures
- Invasive species
- Siltation
- Water abstraction

3.27 The Site Improvement Plan (2019) should be read in conjunction with the Supplementary Advice on Conservation Objectives (2023)¹⁸

¹⁶ <http://publications.naturalengland.org.uk/publication/6217720043405312>

¹⁷ <http://publications.naturalengland.org.uk/publication/6640857448972288>

¹⁸ [Designated Sites View \(naturalengland.org.uk\)](#) [Accessed September 2023]

West Midlands Mosses SAC

Introduction

3.28 The West Midlands Mosses comprise four sites supporting large basin mires which have developed as quaking bogs, known as Schwingmoors, together with a variety of associated hollows and pools showing various types and stages of mire development. This complexity of habitats gives rise to a diverse assemblage of associated plants and invertebrates of national significance, in particular at Clarepool Moss where the water quality is unusual for this type of site in being base-rich.

Reason for Designation

3.29 Qualifying Annex I habitats¹⁹:

- Natural dystrophic lakes and ponds. (Acid peat-stained lakes and ponds)
- Transition mires and quaking bogs (Very wet mires often identified by an unstable 'quaking' surface)

Conservation Objectives

3.30 "With regard to the SAC and the natural habitats and/or species for which the site has been designated (the 'Qualifying Features' listed above), and subject to natural change;

3.31 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
- The structure and function (including typical species) of qualifying natural habitats, and
- The supporting processes on which qualifying natural habitats rely

Current Pressures and Threats

3.32 The Site Improvement Plan identifies the following pressures and threats to the SPA:

- Water Pollution
- Hydrological changes
- Air Pollution: impact of atmospheric nitrogen deposition
- Inappropriate scrub control
- Game management: pheasant rearing
- Forestry and woodland management
- Habitat fragmentation

¹⁹ <http://publications.naturalengland.org.uk/publication/6449667604742144>

3.33 The Site Improvement Plan (2019) should be read in conjunction with the Supplementary Advice on Conservation Objectives (2023)²⁰.

²⁰ [Designated Sites View \(naturalengland.org.uk\)](https://naturalengland.org.uk) [Accessed September 2023]

4. Background to Impact Pathways

- 4.1 In carrying out an HRA it is important to avoid confining oneself to effectively arbitrary boundaries (such as Local Authority or parish boundaries), but to use an understanding of the various ways in which Land Use Plans can impact on Habitat sites to evaluate whether development is connected with Habitat sites, in some cases many kilometres distant. Briefly defined, impact pathways are routes by which a change in activity associated with a development can lead to an effect upon a Habitat site. As highlighted earlier, it is also important to bear in mind DLUHC (formerly MHCLG) guidance which states that the AA should be *'proportionate and sufficient to support the task of the competent authority in determining whether the plan or project will adversely affect the integrity of the site.'* (DLUHC, 2019, paragraph 003 Reference ID: 65-003-20190722.²¹).
- 4.2 Based upon Natural England's Site Improvement Plans (SIPs) and professional judgement, there are several impact pathways that require consideration regarding development proposals within the RNP area and the relevant Habitat sites.
- 4.3 The following impact pathways are considered relevant to the HRA of the Mavesyn Ridware Neighbourhood Plan.
- Public access/ recreational pressure;
 - Water pollution
 - Air pollution: impact of atmospheric nitrogen deposition

Background to Recreational Pressure

- 4.4 There is growing concern over the cumulative impacts of recreation on key nature conservation sites in the UK, as most sites must fulfil Conservation Objectives while also providing recreational opportunity. Various research reports have provided compelling links between changes in housing and access levels and impacts on European protected sites^{22, 23}.
- 4.5 Recreational use of a site has the potential to:
- Prevent appropriate management or exacerbate existing management difficulties;
 - Cause damage through erosion, trampling and fragmentation; and
 - Cause eutrophication as a result of dog fouling.
- 4.6 Different types of Habitat sites (e.g., coastal, heathland, chalk grassland) have varying vulnerabilities and are sensitive to different types of recreational

²¹ Available at: <https://www.gov.uk/guidance/appropriate-assessment#what-must-an-appropriate-assessment-contain>

²² Liley D, Clarke R.T., Mallord J.W., Bullock J.M. 2006a. The effect of urban development and human disturbance on the distribution and abundance of nightjars on the Thames Basin and Dorset Heaths. Natural England / Footprint Ecology.

²³ Liley D., Clarke R.T., Underhill-Day J., Tyldesley D.T. 2006b. Evidence to support the appropriate Assessment of development plans and projects in south-east Dorset. Footprint Ecology / Dorset County Council.

pressures. Studies across a range of species have shown that the effects from recreation can be complex.

- 4.7 In order to understand the effects of recreational pressure such as trampling and other processes, a report has been produced on the impacts of recreation to Cannock Chase SAC. This report investigated the signs of damage and wear to the designated heathland habitat, especially the fringing of the path network²⁴. This study found clear indications of habitat deterioration at Cannock Chase that show all the signs of emanating from recreational pressures on the SAC. Indicators of damage from recreational uses included erosion of vegetation cover, fire, eutrophication from animal waste, litter and vandalism.
- 4.8 If the levels of recreational were enough at the time of the report (2012) to be causing an adverse impact then it is likely any increase in visitor numbers will intensify the degree of damage.

Nutrient enrichment

- 4.9 A major concern for nutrient-poor terrestrial habitats is nutrient enrichment associated with dog fouling, which has been addressed in various reviews (e.g.,²⁵). It is estimated that dogs will defecate within 10 minutes of starting a walk and therefore most nutrient enrichment arising from dog faeces will occur within 400m of a site entrance. In contrast, dogs will urinate at frequent intervals during a walk, resulting in a spread-out distribution of urine. For example, in Burnham Beeches National Nature Reserve it is estimated that 30,000 litres of urine and 60 tonnes of dog faeces are deposited annually²⁶. While there is little information on the chemical constituents of dog faeces, nitrogen is one of the main components²⁷. Nutrient levels are the major determinant of plant community composition and the effect of dog defecation in sensitive habitats is comparable to a high-level application of fertiliser, potentially resulting in the shift to plant communities that are more typical of improved grasslands.

Summary

- 4.10 Overall, the following Habitat site is considered susceptible to recreational pressure within the context of the Mavesyn Ridware Neighbourhood Plan:

- Cannock Chase SAC

Background to Air Pollution

- 4.11 The main pollutants of concern for Habitat sites are oxides of nitrogen (NO_x), ammonia (NH₃) and sulphur dioxide (SO₂) and are summarised in Table 2.

Table 2. Main sources and effects of air pollutants on habitats and species²⁸.

Pollutant	Source	Effects on habitats and species
Sulphur dioxide (SO ₂)	The main sources of SO ₂ are electricity generation, and industrial and domestic	Wet and dry deposition of SO ₂ acidifies soils and freshwater and may alter the

²⁴ [Cannock-Chase-SAC-Visitor-Impacts-Mitigation-Report.pdf \(staffordbc.gov.uk\)](http://staffordbc.gov.uk)

²⁵ Taylor K., Anderson P., Taylor R.P., Longden K. & Fisher P. 2005. Dogs, access and nature conservation. English Nature Research Report, Peterborough.

²⁶ Barnard A. 2003. Getting the facts – Dog walking and visitor number surveys at Burnham Beeches and their implications for the management process. *Countryside Recreation* 11:16-19.

²⁷ Taylor K., Anderson P., Liley D. & Underhill-Day J.C. 2006. Promoting positive access management to sites of nature conservation value: A guide to good practice. English Nature / Countryside Agency, Peterborough and Cheltenham.

²⁸ Source: Information summarised from the Air Pollution Information System (<http://www.apis.ac.uk/>)

Pollutant	Source	Effects on habitats and species
	<p>fuel combustion. However, total SO₂ emissions in the UK have decreased substantially since the 1980's.</p> <p>Another origin of sulphur dioxide is the shipping industry and high atmospheric concentrations of SO₂ have been documented in busy ports. In future years shipping is likely to become one of the most important contributors to SO₂ emissions in the UK.</p>	<p>composition of plant and animal communities.</p> <p>The magnitude of effects depends on levels of deposition, the buffering capacity of soils and the sensitivity of impacted species.</p> <p>However, SO₂ background levels have fallen considerably since the 1970's and are now not regarded a threat to plant communities. For example, decreases in Sulphur dioxide concentrations have been linked to returning lichen species and improved tree health in London.</p>
Acid deposition	<p>Leads to acidification of soils and freshwater via atmospheric deposition of SO₂, NO_x, ammonia and hydrochloric acid. Acid deposition from rain has declined by 85% in the last 20 years, which most of this contributed by lower sulphate levels.</p> <p>Although future trends in S emissions and subsequent deposition to terrestrial and aquatic ecosystems will continue to decline, increased N emissions may cancel out any gains produced by reduced S levels.</p>	<p>Gaseous precursors (e.g., SO₂) can cause direct damage to sensitive vegetation, such as lichen, upon deposition.</p> <p>Can affect habitats and species through both wet (acid rain) and dry deposition. The effects of acidification include lowering of soil pH, leaf chlorosis, reduced decomposition rates, and compromised reproduction in birds / plants.</p> <p>Not all sites are equally susceptible to acidification. This varies depending on soil type, bed rock geology, weathering rate and buffering capacity. For example, sites with an underlying geology of granite, gneiss and quartz rich rocks tend to be more susceptible.</p>
Ammonia (NH ₃)	<p>Ammonia is a reactive, soluble alkaline gas that is released following decomposition and volatilisation of animal wastes and from some chemical processes and vehicle exhausts. It is a naturally occurring trace gas, but ammonia concentrations are directly related to the distribution of livestock.</p> <p>Ammonia reacts with acid pollutants such as the products of SO₂ and NO_x emissions to produce fine ammonium (NH₄⁺) - containing aerosol. Due to its significantly longer lifetime, NH₄⁺ may be transferred much longer distances (and can therefore be a significant trans-boundary issue).</p> <p>While ammonia deposition may be estimated from its atmospheric concentration, the deposition rates are strongly influenced by meteorology and ecosystem type</p>	<p>The negative effect of NH₄⁺ may occur via direct toxicity when uptake exceeds detoxification capacity and via N accumulation.</p> <p>Its main adverse effect is eutrophication, leading to species assemblages that are dominated by fast-growing and tall species. For example, a shift in dominance from heath species (lichens, mosses) to grasses is often seen.</p> <p>As emissions mostly occur at ground level in the rural environment and NH₃ is rapidly deposited, some of the most acute problems of NH₃ deposition are for small relict nature reserves located in intensive agricultural landscapes.</p>
Nitrogen oxides (NO _x)	<p>Nitrogen oxides are mostly produced in combustion processes. Half of NO_x emissions in the UK derive from motor vehicles, one quarter from power stations and the rest from other</p>	<p>Direct toxicity effects of gaseous nitrates are likely to be important in areas close to the source (e.g. roadside verges). A critical level of NO_x for all vegetation types has been set to 30 ug/m³.</p>

Pollutant	Source	Effects on habitats and species
	industrial and domestic combustion processes.	<p>Deposition of nitrogen compounds (nitrates (NO₃), nitrogen dioxide (NO₂) and nitric acid (HNO₃)) contributes to the total nitrogen deposition and may lead to both soil and freshwater acidification.</p> <p>In addition, NO_x contributes to the eutrophication of soils and water, altering the species composition of plant communities at the expense of sensitive species.</p>
Nitrogen deposition	<p>The pollutants that contribute to the total nitrogen deposition derive mainly from oxidized (e.g. NO_x) or reduced (e.g. NH₃) nitrogen emissions (described separately above). While oxidized nitrogen mainly originates from major conurbations or highways, reduced nitrogen mostly derives from farming practices.</p> <p>The N pollutants together are a large contributor to acidification (see above).</p>	<p>All plants require nitrogen compounds to grow, but too much overall N is regarded as the major driver of biodiversity change globally.</p> <p>Species-rich plant communities with high proportions of slow-growing perennial species and bryophytes are most at risk from N eutrophication. This is because many semi-natural plants cannot assimilate the surplus N as well as many graminoid (grass) species.</p> <p>N deposition can also increase the risk of damage from abiotic factors, e.g. drought and frost.</p>
Ozone (O ₃)	<p>A secondary pollutant generated by photochemical reactions involving NO_x, volatile organic compounds (VOCs) and sunlight. These precursors are mainly released by the combustion of fossil fuels (as discussed above).</p> <p>Increasing anthropogenic emissions of ozone precursors in the UK have led to an increased number of days when ozone levels rise above 40 ppb ('episodes' or 'smog'). Reducing ozone pollution is believed to require action at international level to reduce levels of the precursors that form ozone.</p>	<p>Concentrations of O₃ above 40 ppb can be toxic to both humans and wildlife and can affect buildings.</p> <p>High O₃ concentrations are widely documented to cause damage to vegetation, including visible leaf damage, reduction in floral biomass, reduction in crop yield (e.g. cereal grains, tomato, potato), reduction in the number of flowers, decrease in forest production and altered species composition in semi-natural plant communities.</p>

4.12 SO₂ emissions are overwhelmingly influenced by the output of power stations and industrial processes that require the combustion of coal and oil. As such, it is unlikely that material increases in SO₂ emissions will be associated with the WntSNP. NH₃ emissions are dominated by agriculture, with some chemical processes also making notable contributions.

4.13 NH₃ can have a directly toxic effect upon vegetation, particularly at close distances to the source such as near road verges²⁹. NO_x can also be toxic at high concentrations (far above the annual average Critical Level) but generally only in the presence of elevated SO₂ which is very rare in the UK.

4.14 NO_x emissions are dominated by the output of vehicle exhausts (more than half of all emissions). Within a 'typical' housing development, by far the largest

²⁹ http://www.apis.ac.uk/overview/pollutants/overview_NOx.htm.

contribution to NO_x (92%) will be made by the associated road traffic. Other sources, although relevant, are of minor importance (8%) in comparison³⁰. Emissions of NO_x could therefore be reasonably expected to increase as a result of greater vehicle use as an indirect effect of the WntSNP. High levels of NO_x and NH₃ are likely to increase the total N deposition to soils, potentially leading to deleterious knock-on effects in resident ecosystems. Increases in nitrogen deposition from the atmosphere can, if sufficiently great, enhance soil fertility and lead to eutrophication. This often has adverse effects on community composition and the quality of semi-natural, nitrogen-limited terrestrial and aquatic habitats³¹.

³².

4.15 According to the World Health Organisation, the critical NO_x concentration (critical threshold) for the protection of vegetation is 30 µg m⁻³. In addition, ecological studies have determined 'Critical Loads' (CLs)³³ of atmospheric N deposition (that is, NO_x combined with ammonia NH₃) for key habitats within Habitat sites.

4.16 According to the Department of Transport's Transport Analysis Guidance, "*Beyond 200m, the contribution of vehicle emissions from the roadside to local pollution levels is not significant*"³⁴ (see Figure 2).

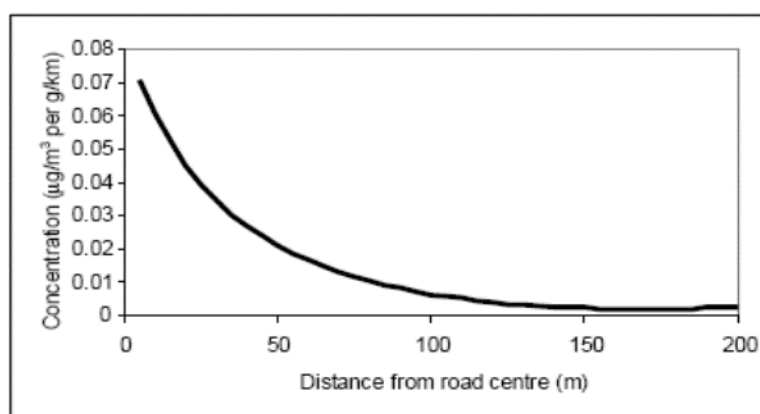


Figure 2: Traffic contribution to concentrations of pollutants at different distances from a road (Source: www.dft.gov.uk/ha/standards/dmrb/vol11/section3/ha20707.pdf)

4.17 The following Habitat sites are considered sensitive to atmospheric pollution arising from the Mavesyn Ridware Neighbourhood Plan:

- Cannock Chase SAC
- West Midlands Mosses SAC

Background to Water Pollution

4.18 Increased amounts of housing or business development can lead to reduced water quality of rivers and estuarine environments. Sewage and industrial

³⁰ Proportions calculated based upon data presented in Dore CJ et al. 2005. UK Emissions of Air Pollutants 1970 – 2003. UK National Atmospheric Emissions Inventory. <http://www.airquality.co.uk/archive/index.php>

³¹ Wolseley, P. A.; James, P. W.; Theobald, M. R.; Sutton, M. A. 2006. Detecting changes in epiphytic lichen communities at sites affected by atmospheric ammonia from agricultural sources. *Lichenologist* 38: 161-176

³² Dijk, N. 2011. Dry deposition of ammonia gas drives species change faster than wet deposition of ammonium ions: evidence from a long-term field manipulation *Global Change Biology* 17: 3589-3607

³³ The critical load is the rate of deposition beyond which research indicates that adverse effects can reasonably be expected to occur

³⁴ TAG unit A3 environmental impact appraisal (publishing.service.gov.uk) [Accessed 10/10/2023]

effluent discharges can contribute to increased nutrients and toxic contaminants in Habitat sites leading to unfavourable conditions.

4.19 The quality of the water that feeds Habitat sites is an important determinant of the nature of their habitats and the species they support. Poor water quality can have a range of environmental impacts:

- At high levels, toxic chemicals and metals can result in immediate death of aquatic life, and can have detrimental effects even at lower levels, including increased vulnerability to disease and changes in wildlife behaviour. Eutrophication, the enrichment of plant nutrients in water, increases plant growth and consequently results in oxygen depletion. Algal blooms, which commonly result from eutrophication, increase turbidity and decrease light penetration. The decomposition of organic wastes that often accompanies eutrophication deoxygenates water further, augmenting the oxygen depleting effects of eutrophication. In the marine environment, nitrogen is the limiting plant nutrient and so eutrophication is associated with discharges containing available nitrogen.
- Some pesticides, industrial chemicals, and components of sewage effluent are suspected to interfere with the functioning of the endocrine system, possibly having negative effects on the reproduction and development of aquatic life.
- For sewage treatment works close to capacity, further development may increase the risk of effluent escape into aquatic environments. In many urban areas, sewage treatment and surface water drainage systems are combined, and therefore a predicted increase in flood and storm events could increase pollution risk.

4.20 The River Mease has been highlighted by Natural England to be particularly sensitive to nutrient neutrality. It is advised that new developments within the catchment of this habitat could cause adverse impacts to nutrient pollution. Developments cannot proceed within the catchment of the river if they will increase levels of nutrients or result in eutrophication. So, developments can only proceed if they are 'nutrient neutral'. Natural England has provided a Nutrient Budget calculator to identify whether a development proposal is likely to add to the nutrient load.

4.21 The following Habitat site is considered sensitive to negative water quality changes arising from the Mavesyn Ridware Neighbourhood Plan:

- Midland Meres & Mosses – Phase 1 Ramsar
- River Mease SAC
- West Midlands Mosses SAC

Summary of Impact Pathways to be Taken Forward

4.22 Having considered the impact pathways identified at paragraph 4.3, those shown in Table 3 will be taken to the next stage in the HRA process, the LSEs screening.

Table 3. Impact pathways and relevant Habitat sites.

Impact pathway	Habitat site (s) potentially affected
Recreational Pressure	Cannock Chase SAC
Air Pollution	Cannock Chase SAC West Midlands Mosses SAC
Water Pollution	Midland Meres & Mosses – Phase 1 Ramsar River Mease SAC West Midlands Mosses SAC

5. Likely Significant Effects (LSEs) Screening

Introduction

- 5.1 When seeking to identify relevant Habitat sites, consideration has been given primarily to identified impact pathways and the source-pathway-receptor approach, rather than adopting purely a 'zones'-based approach. The source-pathway-receptor approach is a standard tool in environmental assessment. In order for an effect to occur, all three elements of this mechanism must be in place, whereas the absence of one or more of the elements means there is no possibility for an effect. Furthermore, even where an impact is predicted to occur, it may not result in significant effects (i.e., those which undermine the Conservation Objectives of a Habitat site).
- 5.2 The likely zone of impact (also referred to as the likely Zone of Influence, Zol) of a plan or project is the geographic extent over which significant ecological effects are likely to occur. The Zol of a plan or project will vary depending on the specifics of a particular proposal and must be determined on a case-by-case basis with reference to a variety of criteria, including:
- the nature, size / scale and location of the plan;
 - the connectivity between the plan and Habitat sites, for example through hydrological connections or because of the natural movement of qualifying species;
 - the sensitivity of ecological features under consideration; and,
 - the potential for in-combination effects.

Approach to Mavesyn Ridware Neighbourhood Plan Policy Screening

- 5.3 There are 13 policies within the Mavesyn Ridware Neighbourhood Plan. Policies were screened out of having LSEs on a Habitat site where any of the following reasons applied:
- they are environmentally positive;
 - they will not themselves lead to any development or other change;
 - they make provision for change but could have no conceivable effect on a Habitat site. This can be because there is no pathway between the policy and the qualifying features or a Habitat site, or because any effect would be positive;
 - they make provision for change but could have no significant effect on a Habitat site (i.e., the effect would not undermine the conservation objectives of a Habitat site); or,

- the effects of a policy on any particular Habitat site cannot be ascertained because the policy is too general. For example, a policy may be screened out if, based on absence of detail in the policy, it is not possible to identify where, when, or how the policy may be implemented, where effects may occur, or which sites, if any, may be affected.
- 5.4 Any 'criteria-based' policy (i.e., those that simply list criteria with which development needs to comply) or other general policy statements that have no spatial element were also screened out. Likewise, policies that simply 'safeguard' an existing resource (e.g., existing green infrastructure or mineral resources) by preventing other incompatible development, were also screened out.
- 5.5 The appraisal therefore focussed on those policies with a definable spatial component. Having established which policies required scrutiny by virtue of being spatially defined, consideration was given as to whether LSEs could be dismissed due to a lack of connectivity to any Habitat site for one of the following reasons:
- a potentially damaging activity may occur as a result of the policy but there is no pathway connecting it to a Habitat site (due to distance, for example);
 - there are no Habitat sites vulnerable to any of the activities that the policy will deliver; or,
 - the policy will not result in any damaging activities.

Results of Policy Screening

- 5.6 The results of the LSEs screening of policies included in the Mavesyn Ridware HRA are presented in Table 4. Where a policy is shaded green, there are no linking impact pathways to Habitat sites and LSEs can be excluded. Where the screening outcome is shaded orange, LSEs cannot be excluded, and the policy is screened in for AA.
- 5.7 Of the 13 Mavesyn Ridware Neighbourhood Plan policies, one, Policy MR-02: Land East of Hill Ridware, is considered to have the potential to result in LSEs, either alone or in combination with other plans and projects, as there are impact pathways linking it to Habitat sites, therefore, Appropriate Assessment is required.

Table 4. Screening table of the policies included in the Mavesyn Ridware Neighbourhood Plan.

Policy number / name	Policy summary (full policy details can be found in the NP document)	Likely Significant Effects Screening Assessment
Living and Working		
Policy MR-01: Residential Development	<p>1. Residential development will be supported in the following locations:</p> <ul style="list-style-type: none"> a. within the Hill Ridware Settlement Boundary, which is amended by the Neighbourhood Plan; b. within the site allocated in Policy MR-02; c. infilling of small gaps within existing building frontages; d. redevelopment of existing buildings, providing it does not involve the demolition of a heritage asset. <p>2. The mix of housing types, sizes and tenures in residential development should demonstrate regard for the latest evidence of housing need, including the needs of an ageing population.</p> <p>3. Any required provision of affordable housing should be an integral part of the development scheme and of similar specification to market housing so as to be tenure blind.</p> <p>4. All new dwellings should have the following:</p> <ul style="list-style-type: none"> a. Discreetly located and screened storage for bins and recycling; b. Secure and covered storage for cycles; c. Access to private or shared amenity space. <p>5. Housing should be designed to be flexible to meet differing and changing demands, including home working.</p> <p>6. Residential development should demonstrate high standards of design to create a locally distinctive sense of place, meeting the requirements of design and other policies.</p>	<p>No LSEs, screened out from AA.</p> <p>The policy does not itself lead to development, but instead supports developments in certain locations and with certain qualities such as cycle storage and provision of affordable housing. There are no pathways linking this policy to any Habitat sites.</p> <p>Developments will be considered at the planning stage to ensure they comply with this policy, the NPPF and other relevant policies.</p>
Policy MR-02: Land East of Hill Ridware	<p>1. Land at Ridware Road is allocated for residential development and retail development (Use Class E).</p> <p>2. Retail development should:</p>	<p>Potential for LSE</p> <p>The supporting text notes that this allocation could accommodate up to 33 dwellings. This policy provides</p>

Policy number / name	Policy summary (full policy details can be found in the NP document)	Likely Significant Effects Screening Assessment
	<p>a. be located to front onto Ridware Road; b. should provide a maximum of 500 square metres of convenience retail floorspace.</p> <p>3. Development of the site should meet the following design and landscape requirements, in addition to the requirements in Policies MR05 and MR07:</p> <p>a. the scheme should present an active frontage to Ridware Road to create an attractive approach to the village; b. the layout, landscape design and boundary treatments should create a soft transition between the built development and surrounding landscape setting, including the retention of the hedgerow to the east boundary; c. providing good pedestrian and cycle permeability and connectivity with the village to the west and playing field to the northeast; d. green infrastructure provision should include garden and street trees and hedges to create a high-quality public realm; e. Sustainable Drainage Systems (SuDS) should be incorporated into landscape design and green infrastructure.</p> <p>4. Vehicular access should be made from Ridware Road.</p> <p>5. Development should include the retention and enhancement of the Public Right of Way (CP15) to the west boundary of the site, meeting the requirements of Policy MR11.</p> <p>6. The green open space requirement should be met by the flood plain land to the north of the site, with good connectivity to the built development and a new link to the playing fields to the east of the site.</p>	<p>the location and quantum of development and has the potential to result in the following adverse effects on Habitat sites:</p> <ul style="list-style-type: none"> Public access and disturbance/ recreational pressure Air pollution <p>The allocated site is 6.7km away from Cannock Chase, which is susceptible to the above-mentioned adverse effects.</p> <p>The development site is over 11 km away from Midland Meres & Mosses - Phase 1 Ramsar and West Midlands Mosses SAC. The allocation is also outside the surface water catchment of the River Mease SAC. Therefore, the allocation is outside of the zone of influence of these designated sites and so unlikely to result in adverse effects.</p>
Policy MR03: Employment	<p>1. Development to provide employment (Use Class E) will be supported within the Hill Ridware settlement, subject to there being no adverse impact on the amenities of residential properties or on the historic environment, having regard to Policy MR7.</p> <p>2. Development to diversify the rural economy will be supported, subject to there being no adverse impact on the amenities of residential properties or on the area's natural or historic environments, having regard to Policies MR06 and MR07.</p> <p>3. New employment space should be supported by high-speed broadband infrastructure within the site, so as to be ready as local services are improved.</p> <p>4. Development for employment facilities should demonstrate high standards of design to create a locally distinctive sense of place, meeting the requirements of Policy MR04.</p>	<p>No LSEs, screened out from AA.</p> <p>The policy does not itself lead to development, but it supports developments that provide employment within the Hill Ridware settlement. The policy states that developments will be supported subject to there being no adverse impact on the area's natural environment. There are no pathways linking this policy to any Habitat sites.</p> <p>Developments will be considered at the planning stage to ensure they comply with this policy, the NPPF and other relevant policies.</p>

Policy number / name	Policy summary (full policy details can be found in the NP document)	Likely Significant Effects Screening Assessment
Policy MR04: Blithbury Redevelopment	<p>1. Redevelopment of the Blithbury site will be supported for the following uses:</p> <ul style="list-style-type: none"> a. residential institutions (Use Class C2); b. education or other community facilities (Use Class F1). <p>2. Residential development (Use Class C3) will only be supported in exceptional circumstances, where the scheme includes significant measures to offset the unsustainable location including:</p> <ul style="list-style-type: none"> a. self-build housing to meet specific local need; b. design and construction to fully or substantially achieve carbon neutrality; c. half or more of the site forming green infrastructure, including landscape features to achieve biodiversity net gain and provide for local food growing. <p>3. The design and layout of development should include the retention of mature trees in and around the site.</p> <p>4. Development of the site should demonstrate high standards of design, based on the specific site characteristics and context, meeting the requirements of Policy MR04.</p>	<p>No LSEs, screened out from AA.</p> <p>The policy does not itself lead to development, but it supports the redevelopment of the Blithbury site for either residential institutions, education or other community facilities. There are no pathways linking this policy to any Habitat sites.</p> <p>Developments will be considered at the planning stage to ensure they comply with this policy, the NPPF and other relevant policies.</p>
Place and Heritage		
Policy MR05: Sustainable Design	<p>1. Development should be designed for the specific site and context, to create a locally distinctive sense of place, meeting the following requirements of this policy proportionate to the scale and nature of the scheme.</p> <p>2. Development must complement the surrounding context in terms of:</p> <ul style="list-style-type: none"> a. scale, massing and height, including the predominant 1 to 2.5 storey height of buildings and townscape in Mavesyn Ridware Parish; b. set-back from the road; c. the spacing of properties; d. in the case of housing, any predominant pattern of front and rear gardens. <p>3. Development should create a safe, convenient and attractive environment for pedestrians, including:</p> <ul style="list-style-type: none"> a. connections to surrounding paths and good permeability within the site; b. an attractive public realm, to support movement, social and recreational activities and play; c. streets and spaces overlooked by active frontages, to create overlooking and natural surveillance. <p>4. Green infrastructure should be an integral part of the design and layout of development and should:</p> <ul style="list-style-type: none"> a. use local native species or other species with high environmental value; b. take opportunities to provide garden and street trees; c. incorporate Sustainable Drainage Systems, where possible. 	<p>No LSEs, screened out from AA.</p> <p>This is a development management policy and does not allocate sites for development. There are no pathways linking this policy to any Habitat sites.</p> <p>Developments will be considered at the planning stage to ensure they comply with this policy, the NPPF and other relevant policies.</p>

Policy number / name	Policy summary (full policy details can be found in the NP document)	Likely Significant Effects Screening Assessment
	<p>5. Development should incorporate positive design and landscape features to reduce carbon use and support biodiversity.</p> <p>6. Materials should be durable, with a good quality of finish, and support will be given to use of:</p> <ul style="list-style-type: none"> a. Local traditional materials or recycled materials; b. Materials from sustainable sources; c. Materials and construction to create superior environmental performance. <p>7. Innovative or creative design solutions designed for the specific site and context will be supported, especially where they incorporate superior environmental performance.</p>	
<p>Policy MR06: Heritage and Character</p>	<p>1. Development should preserve or enhance the character or appearance of the Mavesyn Ridware Conservation Area, taking account of the following key characteristics:</p> <ul style="list-style-type: none"> a. the survival of Medieval character; b. low density townscape, based on separate buildings in landscaping or set back behind grass verges; c. traditional boundary treatments including brick and stone walls and hedges; d. green infrastructure, including grass verges, hedges, mature trees and the small triangular green in front of the church; e. the group value of listed buildings, including two Grade I, one Grade II* and six Grade II listed buildings; f. the Church of St Nicholas as the focal point, with its open churchyard setting including graves, stone boundary wall and gates; g. the mixed vernacular of traditional materials and features, including red brick, stone, half-timber construction, plain clay tiles, thatch, chimneys, and timber doors and windows; h. the open farmland setting of the village. <p>2. Development should preserve or enhance and avoid harm to listed buildings and their settings, including:</p> <ul style="list-style-type: none"> a. the High Bridge (iron bridge) and its river and landscape setting; b. The group value of buildings and structures at Pipe Ridware Hall, including the Hall, dovecote remains, walls and gate piers. <p>3. Development should preserve or enhance the following nondesignated heritage assets and their settings:</p> <ul style="list-style-type: none"> a. Monks Cottage, Uttoxeter Road, Hill Ridware b. Pipe Ridware Church and churchyard, Pipe Ridware c. Thatch Cottage, Uttoxeter Road, Hill Ridware <p>4. Development should complement the historic and rural character of the village in design, materials and finishes, adding to the architectural quality and diversity of the village, and also meeting the requirements of Policy MR04 and MR06.</p>	<p>No LSEs, screened out from AA.</p> <p>This is a development management policy and does not allocate sites for development. There are no pathways linking this policy to any Habitat sites.</p> <p>Developments will be considered at the planning stage to ensure they comply with this policy, the NPPF and other relevant policies.</p>

Policy number / name	Policy summary (full policy details can be found in the NP document)	Likely Significant Effects Screening Assessment
Green Environment		
Policy MR07 Landscape and Nature	<p>1. Development should have no significant adverse impacts and should take opportunities to enhance the historic and rural landscape character and biodiversity of the Parish.</p> <p>2. In terms of impacts on habitats, development should:</p> <ul style="list-style-type: none"> a. avoid negative impacts; or b. where this is not possible, minimise negative impacts and compensate for such impacts; and c. take opportunities to restore damaged or lost habitats. <p>3. Development should not harm and should take opportunities to enhance the River Trent, its tributaries and flanking species rich grassland, including consideration of amenity, accessibility, biodiversity, habitat value, and landscape character.</p> <p>4. Development should have no significant adverse impacts on woodland areas.</p> <p>5. Development should:</p> <ul style="list-style-type: none"> a. retain trees and hedgerows and incorporate them into the design and layout of development, or b. where retention is not possible, provide replacement trees and hedges in close proximity, to provide a similar level of amenity and environmental value; and c. take precautions to avoid damage to roots during construction. <p>6. With the exception of the allocated site, development should not involve the loss of the best and most versatile agricultural land.</p> <p>7. Development should maintain the open landscape setting of Mavesyn Ridware and its separation from other settlements.</p>	<p>No LSEs, screened out from AA.</p> <p>This is a development management policy and does not allocate sites for development. It should have a positive impact by enhancing biodiversity and protecting habitats from potentially negatively impacting developments. There are no pathways linking this policy to any Habitat sites.</p> <p>Developments will be considered at the planning stage to ensure they comply with this policy, the NPPF and other relevant policies.</p>
Policy MR08: Local Green Space	<p>1. The following spaces are designated as Local Green Space:</p> <ul style="list-style-type: none"> • LGS1 Village Hall open space and adjoining allotments, Hill Ridware; • LGS2 Village Green, Mavesyn Ridware • LGS3 Fishing Lake (The Floods), Hill Ridware • LGS4 Playing Field, Hill Ridware • LGS5 Chadwick Arms bowling green and allotments, Hill Ridware • LGS6 The Maltings open space, Hill Ridware • LGS7 Greywood Rise open space, Hill Ridware • LGS8 Hawkhurst Drive open space, Hill Ridware <p>2. Development should cause no harm to the open and green character, amenity, safety or accessibility of Local Green Space.</p>	<p>No LSEs, screened out from AA.</p> <p>This is a safeguarding policy and does not allocate sites for development and aims to protect Local Green Space. This policy could potentially have a positive impact by providing local recreational spaces that could be visited instead of protected designated sites that are vulnerable to recreational pressure. There are no pathways linking this policy to any Habitat sites.</p>

Policy number / name	Policy summary (full policy details can be found in the NP document)	Likely Significant Effects Screening Assessment
Infrastructure		
Policy MR09: Local Facilities	<ol style="list-style-type: none"> 1. Development to provide community facilities will be supported within the Hill Ridware settlement, subject to there being no adverse impact on the amenities of residential properties or on the historic environment, having regard to Policy MR7. 2. Community facilities requiring the use of open land will be supported outside of the Hill Ridware settlement, subject to there being no adverse impact on the amenities of residential properties or on the area’s natural or historic environments, having regard to Policies MR06 and MR07. 3. Loss of existing community facilities will only be supported where: <ol style="list-style-type: none"> a. It can be demonstrated that there is no longer a need for the facilities or that they are no longer viable; or b. A similar or better facility is provided in close proximity. 4. New dwellings should be supported by high-speed broadband infrastructure within the site, including the curtilage of each dwelling, so as to be ready as local services are improved. 5. Development for community facilities should demonstrate high standards of design to create a locally distinctive sense of place, meeting the requirements of Policy MR04 	<p>No LSEs, screened out from AA.</p> <p>This is a development management policy and does not allocate sites for development. This policy could potentially have a positive impact by providing local recreational facilities that could be visited instead of protected designated sites that are vulnerable to recreational pressure. There are no pathways linking this policy to any Habitat sites.</p> <p>Developments will be considered at the planning stage to ensure they comply with this policy, the NPPF and other relevant policies.</p>
Policy MR10: Local Energy Generation	<ol style="list-style-type: none"> 1. Local energy generation schemes will be supported, subject to there being no significant adverse impact on: <ol style="list-style-type: none"> a. the amenities of residential properties; b. the area’s natural environment and habitats, having regard to Policy MR06; c. the area’s historic environment, having regard to Policy MR07; d. the best and most versatile agricultural land. 2. Local energy generation schemes should be located, designed and, where necessary, include screening and landscaping to minimise any adverse visual impacts. 	<p>No LSEs, screened out from AA.</p> <p>This policy supports local energy generation schemes without allocated any. There are no pathways linking this policy to any Habitat sites.</p>
Policy MR11: Movement and Active Travel	<ol style="list-style-type: none"> 1. Development should be designed to support active travel, maximising pedestrian and cycle permeability and connectivity, including links to surrounding paths and community facilities, also meeting the requirements of Policy MR05. 2. Development should have no significant adverse impact on, and should take opportunities to enhance, the amenity, accessibility and safety of footpaths and public rights of way. 	<p>No LSEs, screened out from AA.</p> <p>This is a development management policy and does not allocate sites for development. This policy could potentially have a positive impact by increasing cycling and pedestrian traffic and decreasing vehicle traffic, reducing local air pollution. There are no pathways linking this policy to any Habitat sites.</p>

Policy number / name	Policy summary (full policy details can be found in the NP document)	Likely Significant Effects Screening Assessment
		Developments will be considered at the planning stage to ensure they comply with this policy, the NPPF and other relevant policies.
Policy MR-12: Burial Ground	<p>1. A site has been allocated as an additional burial ground.</p> <p>2. Development of the site or surrounding land that would compromise or prevent the use of the site as a burial ground will not be supported.</p>	<p>No LSEs, screened out from AA.</p> <p>This policy allocates a burial ground development. A ground water risk assessment for drainage and a preliminary ecological appraisal will be done as part of the planning application. There are no pathways linking this policy to any Habitat sites.</p>

Source: Mavesyn Ridware Neighbourhood Plan Working Draft July 2023

6. Appropriate Assessment In-combination

Introduction

- 6.1 The law does not prescribe how an AA should be undertaken or presented, but it must consider all impact pathways that have been screened in, whether they arise alone or in combination with other projects and plans. That analysis is the purpose of this section. The law does not require the different effects to be examined separately provided all effects are discussed.
- 6.2 The HRA screening exercise undertaken in Table 4 indicates that one policy, Policy MR-02: Land East of Hill Ridware for approximately 33 dwellings, is considered to pose potential for LSEs to Habitats sites, either alone or in combination with other projects and plans, due to contributing to the following impact pathways: recreational pressure and air pollution.

Recreational Pressure

- 6.3 Policy MR-02: Land East of Hill Ridware allocates approximately 33 houses within the 15km zone of influence for Cannock Chase. Residential developments within this zone are considered likely to generate visitors to the SAC and potentially harm habitat value unless mitigation measures are in place. Lichfield District Council as a Competent Authority under the Conservation of Habitats and Species Regulations 2010 have put in considerations to ensure that planning application decisions comply with the Habitats Regulations.
- 6.4 Lichfield District Council has put in place mitigation measures that require any development which would produce a net increase in the number of homes within 15km of Cannock Chase SAC to undertake a Habitats Regulations Assessment (HRA) and (where necessary) make a financial contribution before the development takes place. This is described on the Council website: [FINAL CC SAC Guidance to Mitigate-Lichfield-May 17 \(lichfielddc.gov.uk\)](https://www.lichfielddc.gov.uk/development/development-control/development-control-guidance/development-control-guidance-to-mitigate-lichfield-may-17). As of March 2022, the payment was £290.58 for each net new home. The Hill Ridware allocated development would therefore be considered further at the district level. **At the Neighbourhood Plan level, a policy in the plan should include reference to this mitigation requirement and its protection of designated protected sites.**

Air Pollution

- 6.5 The amount of development delivered by the CSNP is small (approx. 33 dwellings on the Hill Ridware site). This will in turn result in a very small change in 24hr Annual Average Daily Traffic (AADT) flows on roads 6.7km distant at Cannock Chase SAC, the most relevant of which is the A513; probably in single figures. Forecast single figure changes in AADT are essentially nugatory, even 'in combination' with other projects and plans, for two reasons:
- Firstly, daily traffic flows are not fixed numerals but fluctuate from day to day. The AADT for a given road is an annual average (specifically, the total

volume of traffic for a year, divided by 365 days). It is this average number that is used in air quality modelling, but the 'true' flows on a given day will vary around this average figure. Very small changes in average flow will lie well within the normal variation (known as the standard deviation or variance) and would not make a statistically significant difference to the total AADT.

- Secondly, when converted into NO_x concentrations, NH₃ concentrations or N deposition rates, AECOM's experience is that very small changes in AADT only affect the third decimal place. The third decimal place is never reported in air quality modelling to avoid false precision. For this reason, pollution is generally not reported to more than 2 decimal places (0.01). Anything smaller is simply reported as less than 0.01 (< 0.01) i.e. probably more than zero but too small to model with precision.

6.6 Furthermore, the imperceptible contribution of the Neighbourhood Plan to these deposition rates (too small to reliably model) adverse effects on integrity can be excluded even in-combination. Based on such assessments in other areas of the UK, an individual plan or project with a very small contribution can be dismissed on the following basis:

- In Advocate-General Sharpston's Opinion in European Court of Justice Case C-258/11, she specified in Paragraph 48 that 'the requirement for an effect to be 'significant' exists in order to lay down a de minimis threshold. Plans and projects that have no appreciable effect on the site can therefore be excluded. If all plans and projects capable of having any effect whatsoever on the site were to be caught by Article 6(3), activities on or near the site would risk being impossible by reason of legislative overkill.'; and
- In *Wealden v SSCLG* [2017] EWHC 351 (Admin) (2017), which specifically concerned the need for in-combination assessment in traffic-related air quality modelling for European sites, Mr. Justice Jay accepted that if the contribution of an individual plan or project to traffic growth or resulting air quality effects was '*very small indeed*' (quoting a notional 20 AADT), it could be legitimately and legally excluded from in-combination assessment. This is in agreement with the opinion of Advocate-General Sharpston.

6.7 Given this, it is concluded that the CSNP will not result in LSEs on the East Devon Pebblebed Heaths SAC and East Devon Heaths SPA regarding atmospheric pollution. This impact pathway is screened out from AA in relation to this site.

7. Conclusions and Recommendations

7.1 This HRA undertook ToLSEs screening of the Mavesyn Ridware (Working Draft Neighbourhood Plan July 2023). All NP policies were assessed in relation to the following Habitat sites:

- Cannock Chase SAC
- Midland Meres & Mosses – Phase 1 Ramsar

- River Mease SAC
- West Midlands Mosses SAC

7.2 Following ToLSEs screening, it was concluded that one policy, Policy MR-02: Land East of Hill Ridware, had the potential to cause a likely significant effect and was discussed with regards to recreational impacts upon Habitat sites.

7.3 Appropriate Assessment determined that no adverse effect on the integrity of Cannock Chase SAC through air quality impacts would arise. It also concluded that provided reference was made in the Neighbourhood Plan to the need for net new housing development to make a financial contribution to the strategic mitigation framework for Cannock Chase SAC, a sufficient policy framework would exist to ensure no adverse effects on the integrity of the SAC.

