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Habitats Regulations Assessment (HRA) report for the Lichfield District Local Plan 2043: Initial considerations at Issues and Options (Regulation 18)

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Summary

The Conservation of Habitats and Species Regulations 2017 (as amended) require local authorities to assess the impact of their local plan on the internationally important sites for biodiversity in and around their administrative areas. Together, these Special Protection Areas, Special Areas of Conservation and Ramsar sites are known as European sites. The task is achieved by means of a Habitats Regulations Assessment (HRA).

A HRA asks very specific questions of a plan. Firstly, it 'screens' the plan to identify if there is a risk that certain policies or allocations may have a 'likely significant effect' on a European site, alone or (if necessary) in-combination with other plans and projects. If the risk of likely significant effects can be ruled out, then the plan may be adopted but if they cannot, the plan must be subjected to the greater scrutiny of an 'appropriate assessment' to find out if the plan will have an 'adverse effect on the integrity' of the European sites.

Following an appropriate assessment, a Plan may only be adopted if an adverse effect on the integrity of the site can be ruled out. If necessary, a plan should be amended to avoid or mitigate any likely conflicts.

This document is an initial HRA report for the Lichfield Local Plan 2043: Issues and Options. The Plan is at an early stage and at this stage comprehensive screening and appropriate assessment is not possible. These can only be undertaken once the complete plan has been produced. This report therefore considers the likely issues and provides the groundwork to inform the development of the Plan (in relation to the Habitats Regulations) and any further steps needed to inform the HRA at Regulation 19.

A review of European sites in and around the District indicates that the following sites are likely to be relevant when screening the Plan:

- Cannock Chase SAC (with potential for impacts relating to recreation and air quality)
- Cannock Extension Canal SAC (with potential for impacts in relation to water issues and air quality)
- River Mease SAC (with potential for impacts from water issues).

The above should be confirmed with Natural England, in particular we have ruled out the likelihood of any risk with respect to air quality impacts to the River Mease SAC.

With respect to recreation, we highlight the potential for likely significant effects from recreation to Cannock Chase SAC, as a result of the cumulative effects of new residential accommodation within 15km of the SAC. A strategic mitigation scheme is in place and mitigation will be set out in the Plan. As such there is clearly a relevant impact pathway. The Strategic Access Management and Monitoring Plan (SAMM) will provide a key piece of evidence to inform subsequent appropriate assessment and should allow a conclusion of no adverse effects on integrity for Cannock Chase SAC, alone or in-combination, to be reached. As the Council continues to develop the Plan, options to reduce reliance on the SAMM and avoid issues to Cannock Chase SAC from recreation should ideally be pursued. Options for

settlement extensions or new settlements outside the zone of influence, where high quality green infrastructure can provide recreation space and opportunities for residents are likely to provide the best options to minimise risk.

We also identify risks to Cannock Chase Extension Canal SAC and the River Mease SAC in relation to water issues. Further checks at the next iteration of the Plan should ensure that:

- No development is allocated or promoted that might impact water quality for the Chasewater Reservoir or Cannock Extension Canal SAC;
- Any development within the catchment of the River Mease SAC can only come forward if can demonstrate nutrient neutrality.
- There is sufficient headroom to provide water for the overall level of growth (once finalised) without risks to the European sites.

Development across Lichfield District (and neighbouring authorities) will also pose risks in terms of increased traffic and air quality impacts. Prior to undertaking the appropriate assessment for the Regulation 19 version of the Plan, discussion on air quality impacts and advice from Natural England should be sought. Risks are identified for Cannock Chase SAC and Cannock Chase Extension Canal SAC and dispersion modelling conducted for these two sites indicates a wide area of Cannock Chase Extension Canal SAC in particular is likely to be affected by Plan-led growth within Lichfield and neighbouring authorities.

At Regulation 19 it will be necessary to ensure the dispersion modelling and air quality work is based on traffic flows that reflect the growth in the Plan as submitted and to incorporate the views of Natural England. Mitigation may be necessary, and this will need to be identified and planned prior to the HRA work to ensure a conclusion of no adverse effect on integrity from air quality, alone or in-combination, can be reached.

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1. Introduction

Overview

1.1 This report is an initial Habitats Regulations Assessment (HRA) of the Lichfield District Local Plan. This HRA report has been prepared by Footprint Ecology on behalf of Lichfield District Council. A HRA assesses the implications of a plan for legally protected European sites.

1.2 The HRA is updated at each stage of the Local Plan review, with an update to the report prepared for each public consultation stage. This HRA report accompanies the Issues and Options version of the Plan (Regulation 18) produced for public consultation in October 2024.

The Lichfield District Local Plan

1.3 Lichfield District lies within south-east Staffordshire and abuts the West Midlands conurbation. The District includes the two main settlements of Lichfield City and Burntwood. The District is home to just over 100,000 residents.

1.4 Local Plans set out the vision and where new homes, jobs and infrastructure will be created in order to meet the various needs of a District. Councils are required by Government to review their Local Plans every 5 years and they must be prepared in accordance with relevant planning legislation, national planning policy and guidance.

1.5 Once adopted the Local Plan 2043 will replace the existing Local Plan Strategy, the Local Plan Allocations and the Local Plan Policies Map.

HRAs and legislative context

1.6 The designation, protection and restoration of key wildlife sites is embedded in the Conservation of Habitats and Species Regulations 2017, as amended, which are commonly referred to as the 'Habitats Regulations'. These are domestic law and remain in place post Brexit. Importantly, the most recent

amendments (the Conservation of Habitats and Species (amendment) (EU Exit) Regulations 2019[1]) take account of the UKs departure from the EU.

1.7 Regulation 105 *et seq* addresses the assessment of local plans and determines the scope of this HRA alongside recent Government Guidance on the interpretation and application of the Regulations[2] .

1.8 Competent authorities must carry out an assessment under the Habitats Regulations (a HRA), to test if a plan or project proposal could significantly harm the designated features of a European site.

1.9 Competent authorities include any public body that decides to give a licence, permit, consent or other permission for work to happen, adopt a plan or carry out work for itself, such as a local planning authority.

European sites

1.10 'European sites' are those over which the provisions of the Habitat Regulations exert an influence, through statute or policy. They are the top tier of protected sites in the UK and are of international importance for nature conservation. These include sites that were part of the Natura 2000 network of sites formerly the largest coordinated global network of protected areas prior to Brexit (previously referred to as 'Natura 2000 sites').

1.11 Sites that are afforded statutory protection and are included within Regulation 8 of the Habitat Regulations are now part of a 'national network' of sites and are referred to as Habitat sites. Statutory sites comprise of the following:

- Special Protection Areas (SPA) classified under the 1979 Birds Directive;
- Special Areas of Conservation (SAC) designated under the 1992 Habitats Directive;
- Candidate SACs, submitted by the UK government to the European Commission before Exit day as eligible for selection as an SAC;

[1] The amending regulations generally seek to retain the requirements of the 2017 Regulations but with adjustments for the UK's exit from the European Union. See Regulation 4, which also confirms that the interpretation of these Regulations as they had effect, or any guidance as it applied, before exit day, shall continue to do so.
[2] Habitats regulations assessments: protecting a European site. Defra and Natural England. 24 February 2021. https://www.gov.uk/guidance/habitats-regulations-assessments-protecting-a-european-site

- Sites of Community Importance (SCI) included on the list of such sites compiled by the European Comission and submitted before the UK left the EU.

1.12 As a matter of policy, the following sites are also European sites:

- Wetlands of International Importance (Ramsar sites, listed under the Convention) or proposed Ramsar sites;
- Potential SPAs (pSPAs);
- Possible SACs (pSACs);
- Areas providing formal compensation for damage to European sites, are also given the same protection[3].

1.13 The overarching objectives of the national network is to maintain, or where appropriate, restore habitats and species listed in Annexes I and II of the Habitats Directive to a Favourable Conservation Status. In addition, sites should contribute to ensuring in their area of distribution, the survival and reproduction of wild birds and securing compliance with the overarching aims of the Wild Birds Directive.

1.14 The appropriate authorities must have regard to the importance of protected sites, coherence of the national site network and threats of degradation or destruction (including deterioration and disturbance of protected features) on SPAs and SACs.

Process

1.15 Plans and projects which are directly connected with or necessary to the management of a European site may be exempt from the HRA process. For all other plans or projects, assessment proceeds through a step-by-step process outlined in Figure 1.

1.16 Throughout all stages, there is a continual consideration of the options available to avoid and mitigate any identified potential impacts. A competent

[3] For the avoidance of doubt, the list of statutory European sites also comprises: A site submitted by the UK to the European Commission (EC) before Exit Day (a candidate SAC or cSAC) as eligible for selection as a Site of Community Importance (SCI) but not yet entered on the ECs list of SCI, until such time as the Appropriate Authority has designated the site or it has notified the statutory nature conservation body that it does not intend to designate the site. After Exit Day, no further cSACs will be submitted to the EU. Statutory European sites also include SCI included on a list of such sites by the European Commission from cSACs submitted by the UK before the UK left the EU, until such time as the UK designates the site when it will become a fully designated SAC.

authority may consider that there is a need to undertake further levels of evidence gathering and evaluation at the appropriate assessment stage in order to provide the necessary certainty. At this point the competent authority may identify the need to add to or modify the plan in order to adequately protect the European site, and these mitigation measures may be added through the imposition of particular restrictions and conditions.

1.17 For plans, the stages of HRA are often quite fluid, with the plan normally being prepared by the competent authority itself (in this case, the District Council, as the local planning authority). This gives the competent authority the opportunity to repeatedly explore options to prevent impacts, refine the plan and rescreen it to demonstrate that all potential risks to Habitat sites have been successfully dealt with.

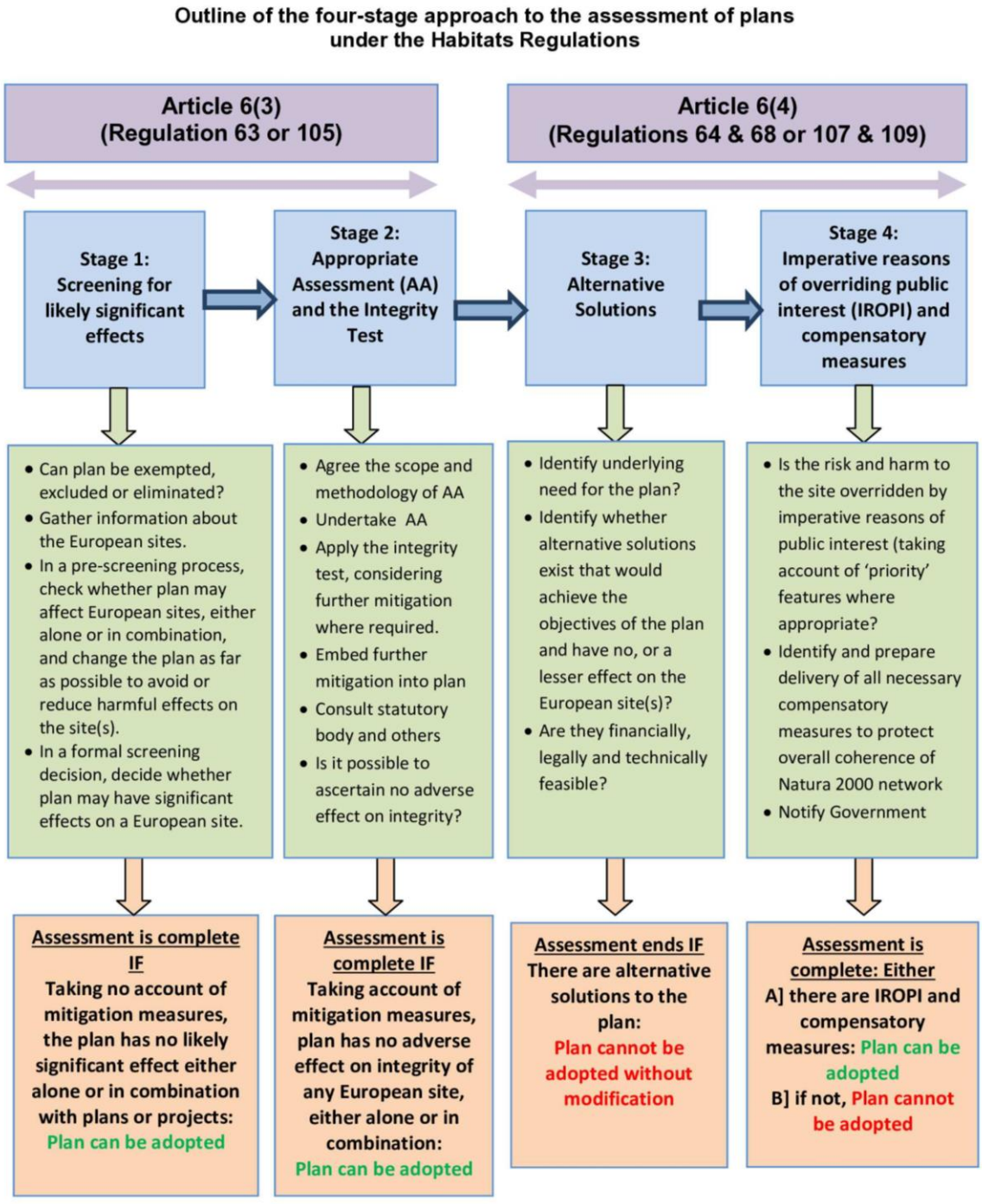
1.18 When preparing a plan, a competent authority may therefore go through a continued assessment as the plan develops, enabling the assessment to inform the development of the plan. For example, a competent authority may choose to pursue an amended or different option where impacts can be avoided, rather than continue to assess an option that has the potential to significantly affect Habitat site interest features.

1.19 After completing an assessment, a competent authority should only adopt a plan where it can be ascertained that there will not be an adverse effect on the integrity of the Habitat site(s) in question. In order to reach this conclusion, the competent authority may have made changes to the plan, or modified the project with restrictions or conditions, in light of their Appropriate Assessment findings.

1.20 Where adverse effects cannot be ruled out, further exceptional tests are set out in Regulation 107. In exceptional cases, this allows a plan to be taken forward where there are no 'alternative solutions', where 'imperative reasons of overriding public interest' apply and where compensation can be delivered. It should be noted that meeting these tests is a rare last resort and ordinarily, competent authorities seek to ensure that a plan or project is fully mitigated for, or it does not proceed.

1.21 In such circumstances where a competent authority considers that a plan should proceed under Regulations 107, they must notify the relevant Secretary of State. Normally, planning decisions and competent authority duties are then transferred, becoming the responsibility of the Secretary of State, unless on considering the information, the planning authority is directed by the Secretary of State to make their own decision on the plan or

project at the local level. The decision maker, whether the Secretary of State or the planning authority, should give full consideration to any proposed 'overriding reasons' for which a plan or project should proceed despite being unable to rule out adverse effects on Habitat site interest features, and ensure that those reasons are in the public interest and are such that they override the potential harm. The decision maker will also need to secure any necessary compensatory measures, to ensure the continued overall coherence of the Habitat site network if such a plan or project is allowed to proceed.



Extract from *The Habitats Regulations Assessment Handbook*, www.dtapublications.co.uk
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Figure 1: Outline of the assessment of plans under the Habitat Regulations. Though dated prior to the latest amendments to the Regulations, the same tests still apply and it remains valid.

Definitions, references to case law and guidance

1.22 This HRA follows principles of case law, both UK and EU. It also refers as appropriate to the Habitats Regulations Assessment Handbook (Tyldesley & Chapman, 2021), to which Footprint Ecology subscribes. We also follow relevant government guidance.

1.23 Drawing on the Handbook, other relevant guidance and case law, we clarify the following terms used in the flow chart (Figure 1).

1.24 In Stage 1, a '**likely significant effect'** following Waddenzee[4], is a '*possible significant effect; one whose occurrence cannot be excluded on the basis of objective information'*. It is a low threshold and simply means that there is a risk or doubt regarding such an effect. The screening stage is a preliminary examination, sometimes described as a coarse filter, or following Sweetman, '*a trigger for the obligation to carry out an appropriate assessment*'. There should however be credible evidence to show that there is a real rather than a hypothetical risk of effects that could undermine a site's conservation objectives. This was amplified in the Bagmoor Wind[5] case where '*if the absence of risk… can only be demonstrated after a detailed investigation, or expert opinion,* [then] *the authority must move from preliminary examination to appropriate assessment'.*

1.25 Following the People Over Wind judgement[6], when making screening decisions for the purposes of deciding whether an appropriate assessment is required, competent authorities cannot take into account any mitigation measures intended to avoid or reduce harmful effects upon a European site.

1.26 Stage 2 involves the **appropriate assessment and integrity test**. Here a plan can only be adopted if the competent authority can demonstrate that it will not adversely affect the integrity of the European site. This is precautionary approach and means it is necessary to show the absence of harm.

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[4] Waddenzee: European Courts C-127/02 Waddenzee 7th September 2004, reference for a preliminary ruling from the Raad van State.
[5] Bagmoor Wind: UK courts Bagmoor Wind v The Scottish Ministers, Court of Session [2012] CSIH 93
[6] People Over Wind: European Count Case C-323/17 People Over Wind & Peter Sweetman v Coillte Teoranta 12 April 2018

1.27 Following Champion[7] '**appropriate'** is not a technical term but simply indicates that the assessment needs to be appropriate to the task in hand.

1.28 The **integrity** of a European site has been described as the '*coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified*[8]. An alternative definition, after Sweetman[9], is 'the lasting preservation of the constitutive characteristics of the site'.

1.29 In terms of the burden of proof, the HRA of development plans was first made a requirement in the UK following a ruling by the European Court of Justice in EC v UK[10]. However, the judgement[11] recognised that any assessment had to reflect the actual stage in the strategic planning process and the level of evidence that might or might not be available. This was given expression in the High Court (Feeney)[12] which stated: "*Each … assessment … cannot do more than the level of detail of the strategy at that stage permits*".

1.30 The need to consider possible **in-combination** effects arises at stage 1 – the screening and also at stage 2 – the appropriate assessment and integrity test. The effects of the plan in-combination with other plans or projects are the cumulative effects which will or might arise from the addition of the effects of other relevant plans or projects alongside the plan under consideration. If during the stage 1 screening it is found the subject plan would have no likely effect alone, but might have such an effect in-combination then the appropriate assessment at stage 2 will proceed to consider cumulative effects. Where a plan is screened as having a likely significant effect alone, the appropriate assessment should initially concentrate on its effects alone.

Role of the competent authority

1.31 This HRA has been prepared by Footprint Ecology to help the Council discharge their duties under the Habitat Regulations. Further, it should be noted that this HRA has been prepared for the purposes of preparing and

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[7] Champion: UK Supreme Court [2015] UKSC 52 22nd July 2015
[8] Para 20 of the ODPM Circ. 06/2005
[9] Sweetman: European Court C – 258/11 Sweetman 11th April 2013, reference for a preliminary ruling from the Supreme Court of Ireland
[10] Commission v UK (C-6/04) [2005] ECR 1-9017
[11] Commission of the European Communities v UK Opinion of Advocate General Kokott
[12] Feeney: Feeney v Oxford City Council [2011] EWHC 2699 (Admin). 24th October 2011

examining the Plan. Individual allocations will need to be reviewed when they become the subject of an individual planning application, to ensure that if further assessment under the Habitat Regulations is necessary, it is undertaken in accordance with the requirements of appropriate assessment.

2. European sites in and around Lichfield

Overview of potentially relevant European sites

2.1 To identify the relevant European sites, we have used a 20km radius from the District boundary as an initial area of search (20km providing a reasonable area of search within which policies could reasonably be considered to generate measurable effects). Air quality impacts at plan level are typically considered to relate to a 10km distance (Chapman & Kite, 2021) while generic analysis of Footprint Ecology visitor data to countryside sites in the UK (Weitowitz et al., 2019) indicates that the majority of visitors originate within a 12.6km radius. The choice of 20km is therefore precautionary.

2.2 European sites within 20km are shown in Map 1 and listed in Table 1. The map just shows SACs as there are no SPA sites within a 20km radius. It should be noted that the West Midlands and Meres Mosses SAC is comprised of four SSSIs, of which Chartley Moss SSSI is the only one within 20km of Lichfield District. Chartley Moss SSSI is also part of the Midland Meres and Mosses Phase I Ramsar site. Of the eight SACs within the 20km radius only one, the River Mease SAC, intersects the District boundary. The interest features and current pressures/threats for each site are summarised in Appendix 2.

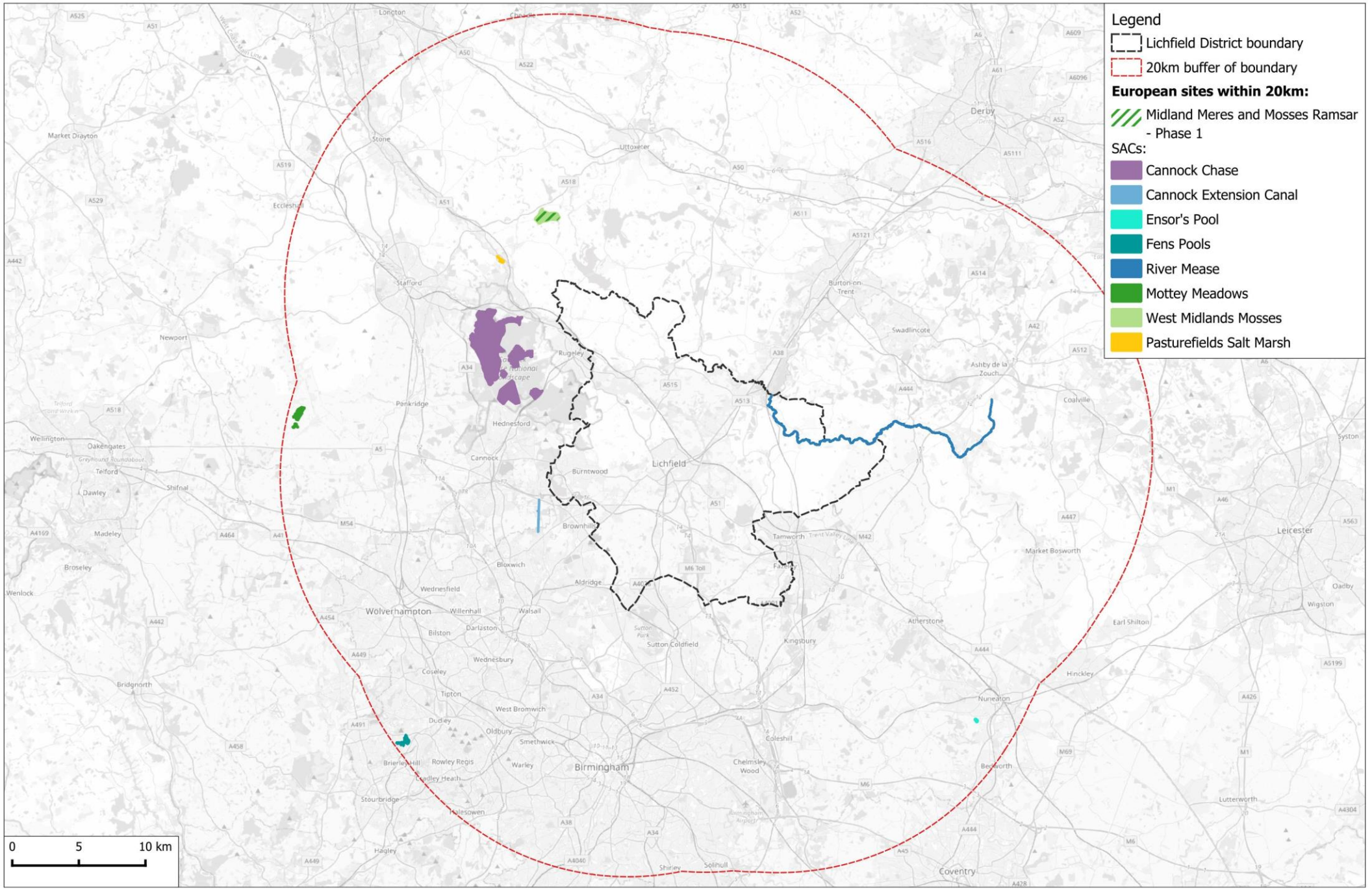
Table 1: European Sites within a 20km radius

SAC	Ramsar
Cannock Chase	Midland Meres and Mosses Phase I
Cannock Extension Canal	
Ensor's Pool	
Fens Pools	
Mottey Meadows	
Pasturefields Salt Marsh	
River Mease	
West Midlands Mosses	

2.3 For the avoidance of doubt, it should be noted that although far distant, the Humber Estuary European site is fed by the River Trent, which flows through the District. However, the closest part of the Humber lies approximately 120km distant, as the crow flies. At such a distance, the only possible impact is provided by wastewater from development discharged into the Trent. However, given the dilution effect provided by the distance, river volume (the

Trent drains around a fifth of England) and that wastewater treatment plants have to meet strict water quality standards by law, it is considered inconceivable that any credible or appreciable effects will arise. Consequently, it is eliminated from any further consideration in this HRA.

Map 1: European sites within 20km of Lichfield District boundary



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2.4 In assessing the implications of any plan or project on European sites, it is essential to fully understand the ecology and sensitivity of the sites, in order to identify how they may be affected. Appendix 1 summarises the generic conservation objectives and Appendix 2 provides detail of the relevant sites, listing their qualifying features, describing the sites and providing links to the relevant detailed conservation advice from Natural England.

Identifying impact pathways

2.5 Drawing on previous HRA work and a broad understanding of the locations where the Plan is focussed, we can identify the following potential impact pathways (i.e. credible risks) to European sites whereby development and other elements within the Plan could have credible risks for the European sites.

Recreation

2.6 Harmful ecological effects from recreational pressure relate to increased numbers of people living nearby and using sites for recreation. Issues relate to a range of activities including dog walking and mountain biking. Issues can include disturbance, trampling, contamination (e.g. from dog fouling) and increased fire risk.

2.7 The most popular destinations can draw in visitors in great numbers from considerable distances and honeypot locations will often have infrastructure in place, such as car parks, visitor centres and marked trails. Less popular sites, or those with fewer facilities, may have a smaller catchment and fewer visitors. The recreation use, draw of sites and potential risks are site specific. For large European sites with a wide draw, housing growth over a wide area may bring particular risks and some sites have strategic mitigation schemes in place to address the cumulative effects. For other sites, it maybe that development only in close proximity or in very specific areas will bring risks, and these need to be carefully considered through plan-level HRA.

2.8 Risks are particularly associated with new residential accommodation rather than employment sites, given the reduced opportunities for employees to visit European sites nearby during the working day. Employment sites would only pose risks where they are proposed directly adjacent to European site boundaries (where the site is vulnerable to recreation impacts).

2.9 The issues from recreation pressure at Cannock Chase SAC have long been recognised and are set out in a range of studies (Liley et al., 2010; White et

al., 2012). A strategic mitigation scheme has been established[13] and has applied a zone of 15km used to identify where cumulative effects from housing growth are relevant. The 15km zone is shown in Map 2.

Water issues

2.10 Water issues include water quality and water quantity (i.e. water availability), and flood management. Run-off, outflow from sewage treatments and overflow from septic tanks can result in increased nutrient loads and contamination of water courses. Abstraction and land management can influence water flow and quantity, resulting in reduced water availability at certain periods or changes in the flow. Such impacts particularly relate to aquatic and wetland habitats.

2.11 The local utility companies (Severn Trent Water and South Staffs Water) have legal duties to provide drinking water and wastewater treatment for most new dwellings. The Environment Agency regulates such activities and also private solutions such as septic tanks and abstraction licences. Development that is carried out without the necessary infrastructure in place or that fails to meet established standards could compromise the conservation objectives of European sites in the area.

2.12 Issues have long been recognised in relation to the River Mease SAC around elevated nutrients and the impacts of development. In 2022, Lichfield District Council was one of many authorities around the country that received advice from Natural England around nutrient neutrality. The advice was such that where protected sites are in unfavourable condition due to excess nutrients, development should only go ahead if it will not cause additional pollution to those sites. This advice from Natural England means that new residential development within the River Mease catchment must achieve 'nutrient neutrality'.

2.13 Further background and copies of Natural England's advice are available on the Lichfield District Council website[14]. The River Mease catchment is shown in Map 2.

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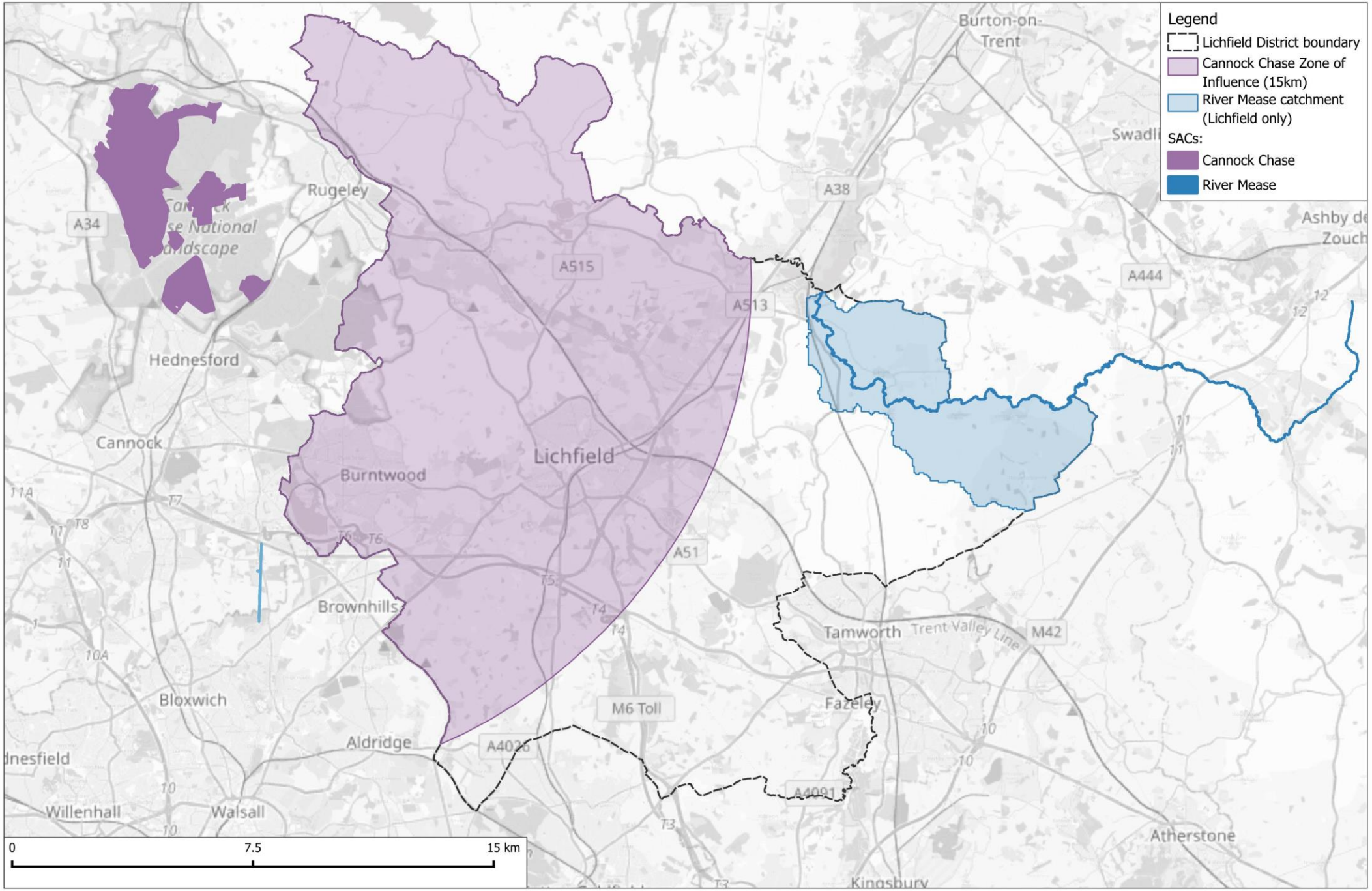
[13] See https://www.lichfielddc.gov.uk/planning-policy/planning-obligations-1/4 for details (accessed 11th July 2024)

[14] See https://www.lichfielddc.gov.uk/planning-policy/planning-obligations-1/4 for details of the strategy and the catchment map (accessed 4th March 2021)

Map 2: Strategic housing sites, Cannock Chase 15km and River Mease catchment



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Air pollution

2.15 Development is typically associated with increased traffic and emissions which can increase the airborne concentration of nitrogen oxides (NOx) and ammonia (NH_3), and the subsequent rate of nitrogen deposition from the atmosphere. This can lead to the nutrient enrichment and acidification of soils, encouraging more tolerant ruderal species at the expense of sensitive plant, lower plant and invertebrate communities. In high concentrations, ammonia can result in direct toxic effects on vegetation, a factor which may also be true of NO_x. Furthermore, it can exacerbate the effects of other factors such as climate change or pathogens, for example. In contrast, larger animals, such as small mammals and birds are considered immune to direct effects but can be vulnerable to change in their supporting habitats.

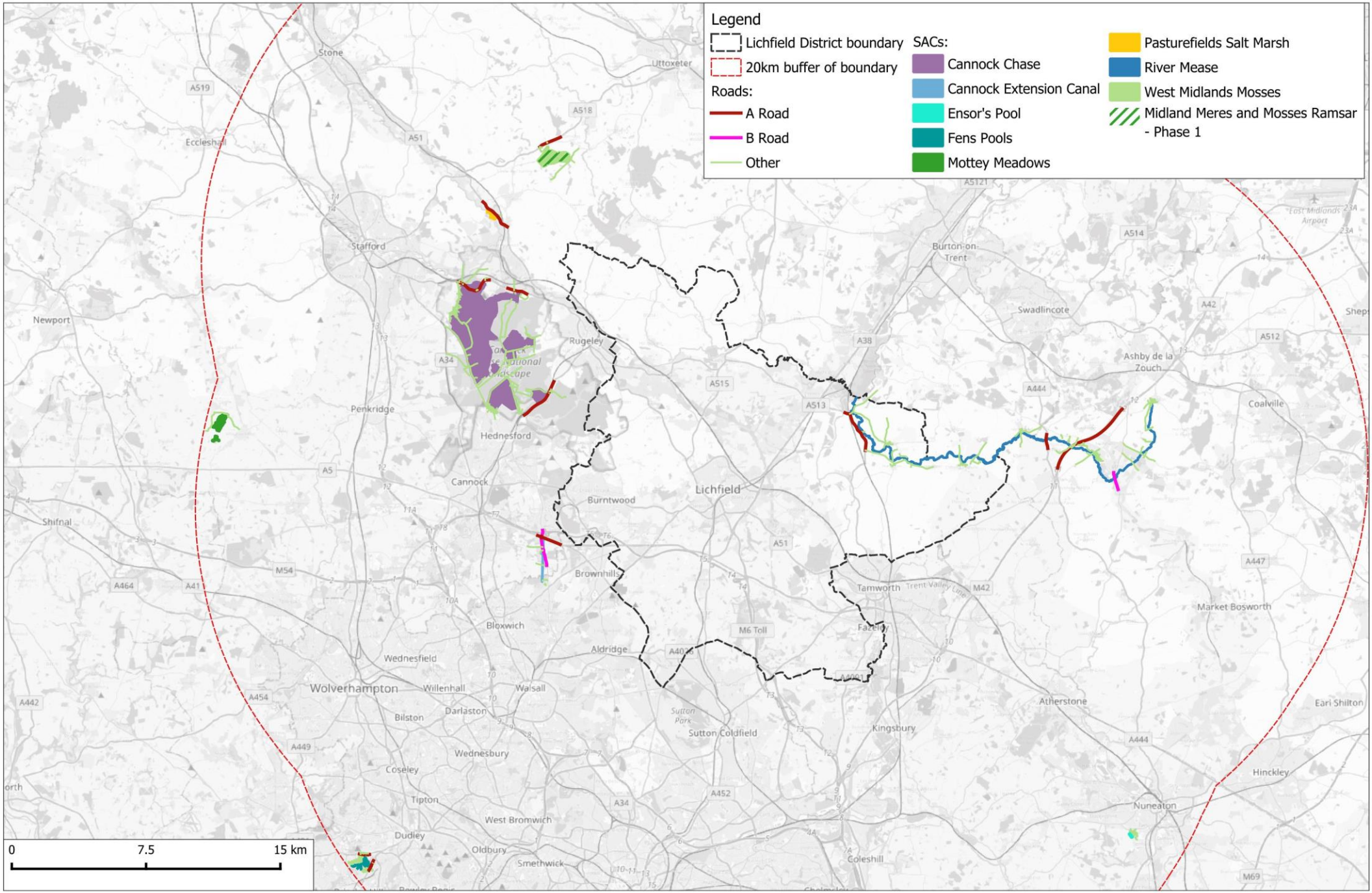
2.16 However, levels of nitrogen deposition fall quickly in the first few metres from the roadside before gradually levelling out; beyond 200m, they become difficult to distinguish from background levels. In other words, impacts at 10m, 50m or 200m can be very different from those at the roadside.

2.17 It can be seen, therefore, that the additional contributions that might arise from increased traffic are only likely to be significant where a European site lies within 200m of a road which is expected to experience an increase of traffic, and where a feature is known to be sensitive to such effects. Such relatively simple tests essentially represent the scope of a screening assessment leaving more detailed analysis and its relationship to the ecological characteristics of the European sites at risk to the appropriate assessment, should any European sites fall into the above categories.

2.18 Roads that are within 200m of relevant European sites are shown in Map 3. In recognition of the potential issues around air quality and European sites in the District, Lichfield District Council, working in partnership with neighbouring authorities and Natural England, has commissioned traffic modelling and air quality dispersion modelling in relation to the relevant European sites. Chartley Moss (part of the West Midlands Mosses SAC and the Midlands Meres and Mosses Phase I Ramsar) was not included in the modelling as road sections within 200m were minimal and it was considered highly unrealistic that any cumulative housing growth could lead to any meaningful traffic uplift. The River Mease SAC was also not included in the modelling, however the site does have roads within 200m so further checks are necessary. Dispersion modelling (Shelton, 2024) identified that Cannock Chase SAC, Cannock Extension Canal and Fens Pools SAC are predicted to experience in-combination impacts above the 1% significance screening

criterion for NH3 concentrations, N deposition rates, and acid (N) deposition rates. In some cases, the area of the respective site in exceedance of the 1% criterion is extensive.

Map 3: Roads within 200m of European sites



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Identifying European sites potentially at risk

2.20 In Table 2 we provide an overview of the European sites initially identified and those that are relevant for the screening, where there could be credible risks.

2.21 Drawing from Table 2, the following sites should therefore be considered when screening the Lichfield District Local Plan for likely significant effects:

- Cannock Chase SAC;
- Cannock Extension Canal SAC;
- River Mease SAC.

Table 2: Summary of European sites within 20km or with a direct link (hydrology), potentially relevant impact pathways for those sites and those that can be eliminated from further consideration (grey shading). The River Mease SAC row has no figure in the distance column as the site is within the Lichfield District boundary.

European site	Approx .distance (km) from District boundary	Recreation	Water issues	Air quality	Notes and for grey shaded rows, reasons for elimination from rest of plan
SACs					
Cannock Chase SAC	2.7	✓		✓	On plateau above the District and so upstream of development, therefore no hydrological links. Recreation a long-standing issue. Site has roads within 200m.
Cannock Extension Canal SAC	1.2		✓	✓	Boat traffic can be an issue but recreation eliminated as boat use carefully monitored by the Canals and Rivers Trust and regular dredging ensures water doesn't become turbid. Site has roads within 200m. Water and air quality highlighted in Site Improvement Plan (SIP) and supplementary advice, however as not fed by catchment and main source of water is the reservoir in Chasewater Country Park, water quality risks relatively low.
Ensor's Pool SAC	17.0				Freshwater site well outside District boundary and no hydrological links. Distance from Lichfield such that traffic impacts can be discounted
Fens Pools SAC	19.3				Freshwater site well outside District boundary and no hydrological links. Distance from Lichfield such that traffic impacts can be discounted
Mottey Meadows SAC	18.8				No public access and well outside District boundary. Qualifies for hay meadows with no issues in relation to water. No major roads nearby.
Pasturefield Salt Marsh SAC	4.3				Site managed by Staffordshire WT. Limited public access (only allowed outside bird breeding season and any visitors have to climb a locked gate), and no parking on site so no recreation concerns. Site spring-fed from deep underground. There is also surface run-off but from limited area – given location no hydrological links to Lichfield District. Site has roads within 200m, however air quality dispersion modelling predications indicate no in-combination impacts above the 1% significance screening criterion for NH3 concentrations, N deposition rates, and acid (N) deposition rates.

European site	Approx .distance (km) from District boundary	Recreation	Water issues	Air quality	Notes and for grey shaded rows, reasons for elimination from rest of plan
River Mease SAC			✓		River flows through the District. Recreation not identified as a threat or pressure in the SIP or mentioned in the supplementary conservation advice and qualifying features unlikely to be impacted by recreation use such as wild swimming, paddle sports etc (unless very intensive). Air quality not identified as a pressure or threat in SIP or supplementary conservation advice, and site was not considered relevant to include in air quality modelling. There are roads within 200m. Air quality therefore not considered relevant to the site, but would be useful to ensure Natural England support this conclusion.
West Midlands Mosses SAC	4.6				Freshwater site outside District boundary and no hydrological links to the District. However, air quality a concern and identified in SIP as an issue. Site has roads within 200m, but only very small section of A518 relevant and only tiny part of SAC within 200m. Ruled out of need for modelling in brief for modelling work due to such limited extent of site relevant. Given distance from Lichfield District, no credible air quality risks.
Ramsar					
Midland Meres and Mosses Ph. 1 Ramsar	4.6				As for West Midlands Mosses SAC

3. Screening and the Potential for Likely Significant Effects

3.1 The screening is stage 1 of the 4-stage process and is the point at which the plan is checked for likely significant effects. With a Local Plan the screening is usually in the form of a policy-by-policy check to ensure all elements of the plan have been considered. Any areas of potential concern are then examined in more detail in the appropriate assessment (stage 2) of the HRA.

3.2 At this stage in the plan making there are no policies to screen and it is too early to undertake a complete screening. Nonetheless, it is useful to identify the elements of the Plan that might be screened in when the HRA work is updated at Regulation 19 and detailed policies will be available. Early consideration of where risks lie ensures necessary steps can be taken to find alternatives or develop and incorporate the necessary mitigation into the Plan. It can help highlight where further evidence gathering, checks or contact with the statutory body (Natural England) might be necessary.

Potential likely significant effects

3.3 Detailed policy by policy screening will be undertaken at the next iteration of the Local Plan, once the policy details and further information are available. At this stage it is only possible to use the broad objectives to consider where elements of the Plan may have implications for European sites and likely significant effects could be triggered. Table 3 lists the different objectives in the Plan and considers which impact pathways (if any) might be relevant as the policies under each objective develop.

Table 3: Local Plan objectives, potential for likely significant effects (LSE) and relevant considerations with respect to the relevant European sites. Relevant European sites are listed in the table, with letters to indicate where there might be potential for LSE. R: recreation, W: water issues; A: air quality. A '?' indicates slight possibility depending on further details.

Objective	Cannock Chase SAC	Cannock Chase Extension Canal SAC	River Mease SAC	Notes
1 Meeting housing needs	R, A	W, A	W	Standard method figure is 6,069 homes as potential housing requirement. This level of growth would trigger cumulative effects for all sites and a range of impact pathways. Different options will have different implications for each site.
2 Delivery of affordable homes and meeting specialist housing needs	R?, A?	W?, A?	W?	Criteria based policies relating to affordable homes, specialist housing, custom/self build etc unlikely to trigger any LSE. Any specific allocations (e.g. gypsy and traveller accommodation) would contribute to cumulative effects (water, recreation, air quality) depending on location. However, any such allocations likely to be small so risks low.
3 Delivery of appropriate infrastructure		W?,	W?,	Any specific requirements for infrastructure, for example relating to highway changes or improvements will need to be checked. Impacts however unlikely given the locations of European sites. Water related infrastructure (flooding, drainage etc) may have implications for certain sites.
4 Protecting our historic environment and assets				Policies that protect historic environment unlikely to have implications for European sites.
5 Improving the design of new development				Criteria based policies relating to building design unlikely to have any implications for European sites.
6 Meeting our employment need	A?	A?	W?	Employment allocations may have implications for water quality depending on location and main concern would be River Mease SAC. Employment allocations may add to road traffic on main roads with implications for a number of sites.
7 Enhancing the vitality of our centres	A?	A?		Relevant centres located well away from European sites. Design codes etc unlikely to have any implications, however any allocations that include housing or likely to result in increased traffic may have implications for air quality. Lichfield and Burntwood Centres are outside the catchment of the River Mease.

Objective	Cannock Chase SAC	Cannock Chase Extension Canal SAC	River Mease SAC	Notes
8 Providing diverse employment opportunities and reducing the number of people commuting outside of the district for work				Unlikely to trigger any LSE and any reductions in commuter traffic/car use, likely to have positive effects for European sites in terms of reducing air quality risks.
9 Addressing pockets of deprivation				Policies that relate to education, skills, training health or employment opportunities are unlikely to be any implications for European sites.
10 Enhancing the tourist economy	R?			Tourism development targeted around cultural heritage unlikely to trigger any likely significant effects. Possible risks with respect to Cannock Chase SAC if policies promote tourist accommodation or recreational use.
11 Encouraging healthy and active lifestyles				Scope to reduce risks to Cannock Chase SAC from recreation through creation of alternative greenspace.
12 Tackling the causes and adapt to the effects of climate change				Policies relating to carbon reduction, flooding and renewable energy unlikely to have any implications for European sites. No mobile species associated with the relevant sites that might be impacted from renewable energy projects.
13 Protecting and promoting our natural environment	R, A	W, A	W	Any policies setting out specific mitigation or protection for European sites need to be considered at appropriate assessment. Policies will need to ensure suitable and robust mitigation in place. Green infrastructure policies may have potential to enhance areas for recreation use and deflect access away from Cannock Chase SAC.

4. Introduction to the appropriate assessment

4.1 Appropriate assessment is stage 2 of the HRA process. At this, relatively early stage in plan-making, it is too early to undertake the appropriate assessment and instead this report simply considers the relevant issues that are likely to need to be assessed as the Plan develops. The focus at this stage is to provide context and background and identify where additional evidence gathering or information is likely to be required, so this can be gathered and progressed alongside the Plan.

5. Appropriate assessment topic: Recreation

5.1 Recreation impacts will relate to Cannock Chase SAC and will be triggered by residential accommodation within 15km of the SAC. The growth in the local plan as a whole is likely to trigger likely significant effects for the Local Plan alone.

Cannock Chase SAC

5.2 Cannock Chase SAC is an area of lowland heathland of around 1,244ha (see map 1), which lies entirely within the Cannock Chase Area of Outstanding Natural Beauty (AONB). Situated on a high sandstone plateau with deeply incised valleys, the site is comprised of acidic soils that support a range of heathland, valley mire, ancient woodland and scrub types. It is designated as an SAC[15] for the following qualifying features:

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

5.3 The valley mire/wet heath communities are rare, threatened vegetation types, being some of the most floristically-rich and representative examples of their type in central England. Within Cannock Chase they are found in the stream valley systems and around pools and depressions.

5.4 The area of lowland dry heathland at Cannock Chase is the most extensive in the Midlands. Its special interest also reflects an unusual floristic character, intermediate between heathlands of northern and upland England and Wales and those of southern counties. The hybrid bilberry *Vaccinium intermedium* has its main UK stronghold at Cannock Chase. The hot, dry soil conditions found in bare ground in early successional habitats across the dry heathland is important for invertebrates such as mining bees, ants and wasps.

Impacts from recreation

5.5 There are a range of current pressures and threats on the SAC[16] and one area of particular concern relates to increased visitor pressure and the cumulative impacts of recreation. Impacts from recreation on the nature conservation interest are summarised in a range of sources (Liley et al., 2009; White et al., 2012) and include:

[15] See the Natural England website for detail about the qualifying features and the conservation objectives for the SAC.
[16] See the site improvement plan for overview.

- Disturbance to wildlife;
- Trampling, leading to path widening, vegetation wear, erosion & soil
- compaction;
- Trampling of invertebrate nest sites;
- Fragmentation of habitats from new desire lines & paths;
- Damage to tree roots where paths pass close to veteran trees;
- Increased risk of wildfire;
- Eutrophication (dog fouling);
- Spread of disease (Phytophora);
- Contamination (e.g. dogs in water courses, litter)
- Vandalism;
- Challenges to achieving necessary management (e.g. grazing, spraying, scrub clearance)
- Resources drawn away from conservation management to deal with recreation.

5.6 Visitor surveys (Liley, 2012; Liley & Lake, 2012; Panter & Liley, 2019) show the main activities as dog walking, walking (without a dog), cycling/mountain biking and jogging. Data derived from the 2010/11 Visitor survey showed that visitors to Cannock Chase appeared to originate from a wider area that those for many similar sites across the UK, with half of all visitors living within 8km of the SAC and 75% within 15km. The 75th percentile was used to define a 'Zone of Influence' and this encompassed land within the boundary of seven different Local Planning Authorities.

The Cannock Chase SAC Partnership

5.7 The Cannock Chase SAC Partnership was established in 2016 and comprised of six local planning authorities, Staffordshire County Council, Natural England and a number of key stakeholders via a Memorandum of Understanding (MoU). The MoU was reviewed and updated in 2022[17]. The new agreement is held between seven local authorities, Staffordshire County Council, Cannock Chase AONB, Forest England, Natural England and Staffordshire Wildlife Trust.

5.8 A suite of Strategic Access Management and Monitoring Measures ('SAMMM') have been identified and these will be funded through financial contributions from new housing developments within 15km of the SAC. This is an update on the previous MoU (agreed 2016) where the 15km Zone of Influence was split into two and only developments within 8km (the zone within which most frequent visitors originated) would contribute financially to the SAMMM measures.

[17] The Memorandum of Understanding (reviewed 2022) can be accessed via a link on Lichfield District Council website.

5.9 The partnership has commissioned a visitor survey in 2024 which will provide updated information on visitor numbers, behaviour and postcode data, enabling further checks to ensure the zone of influence is appropriate.

5.10 The strategic mitigation scheme is well established and long running and tailored to provide the necessary mitigation to address cumulative effects of recreation. Lichfield District Council is a signatory to the MoU and is fully engaged with the mitigation partnership.

Different spatial options

5.11 The Plan identifies 4 different spatial options for growth. Cannock Chase SAC lies, at its closest, 2.7km to the District boundary. This means that all growth scenarios will avoid any housing that is directly adjacent to the SAC (and therefore where risks are greatest, as people living close to the SAC tend to visit more frequently). Growth that is outside the 15km will avoid risks to Cannock Chase SAC entirely and ideally scenarios will limit the amount of growth within 15km. Scenarios with more growth within the 15km will need to rely more heavily on the SAMM and it will be necessary to have confidence that the SAMM is based on the right housing figures and can effectively mitigate the growth proposed.

5.12 Option 1, town focussed, would see housing growth focused on Lichfield and Burntwood along with growth on the edges of the district adjacent to Rugeley and Tamworth. Lichfield, Burntwood and Rugeley are within the 15km zone, with Rugeley particularly close (and with good road links to the SAC).

5.13 Option 2, town and key village focused, would be similar to option 1, however growth would be spread across additional settlements such as Alrewas, Armitage with Handsacre, Fazeley, Mile Oak & Bonehill, Fradley, Little Aston, Shenstone and Whittington. Of these, Alrewas, Armitage with Handsacre, Fradley, Shenstone are within the 15km zone. Whittington is largely outside and Fazeley, Mile Oak & Bonehill and Little Aston are well outside the 15km. Recreation impacts associated with Option 2 will be reduced if development is focussed in these latter settlements.

5.14 Option 3, dispersed development would see growth more widely distributed, including the settlements in Option 2 but also including smaller rural villages. Smaller villages would potentially include Stonnall, Kings Bromley, Hopwas and Drayton Bassett. Of these, Stonnall and King's Bromley, are within the 15km zone.

5.15 Option 4, new settlement focussed would see a significant proportion of development focused on one or more new settlements being located within the District. Three potential 'new settlements' have been identified:

- Land at Packington Hall Farm (located within the Green Belt).
- Land at the Thorpe Estate, Thorpe Constantine (located outside of the Green Belt to the north of Tamworth).
- Whitemoor Garden Village & Land at Brookhay (located outside of the Green Belt to the east of the A38).

5.16 Of these, Packington Hall Farm is just outside the 15km zone, Thorpe Estate is well outside the 15km zone and the Whitemoor Garden Village & Land at Brookhay would be likely to be just within the 15km zone. Focussing growth at Thorpe Estate would therefore pose no risks for Cannock Chase SAC, while the other two potential settlements would need to be assessed carefully. Large amounts of growth at specific locations would mean that there may be implications for particular car parks or parts of Cannock Chase SAC, depending on the road links. Large green belt sites also provide the potential to create alternative greenspace, integrated into the design and easily accessible to residents. Such potential should be explored as mitigation for the Whitemoor Garden Village & Land at Brookhay site in particular.

Implications for appropriate assessment at Regulation 19

5.17 The SAMM will provide a key piece of evidence to inform the appropriate assessment and should allow a conclusion of no adverse effects on integrity for Cannock Chase SAC, alone or in-combination, to be reached. As the Council continues to develop the Plan, options to reduce reliance on the SAMM and avoid issues to Cannock Chase SAC from recreation should ideally be pursued. Options for settlement extensions or new settlements outside the zone of influence, where high quality green infrastructure can provide recreation space and opportunities for residents are likely to provide the best options to minimise risk.

6. Appropriate assessment topic: Water issues

6.1 Water issues include water quality and water quantity (i.e. water availability), and flood management. Run-off, outflow from sewage treatments and overflow from septic tanks can result in increased nutrient loads and contamination of water courses. Abstraction and land management can influence water flow and quantity, resulting in reduced water availability at certain periods or changes in the flow. Such impacts particularly relate to aquatic and wetland habitats.

6.2 Assessment of water related issues are primarily a check that the overall quantum of growth can be accommodated without compromising the ecological integrity of hydrologically sensitive European sites.

6.3 Likely significant effects are possible from the overall cumulative levels of growth proposed and relate to the Cannock Chase Extension Canal SAC and the River Mease SAC.

Cannock Extension Canal SAC

6.4 Cannock Chase Extension Canal SAC lies just over 1km outside the District boundary. The supplementary conservation advice[18] states that the canal was dug in 1863 for transportation of coal, and is a terminal side branch of the Wyrley and Essington Canal extending northwards for 2.5km towards Norton Canes.

6.5 The canal is fed by Chasewater Reservoir SSSI that lies approximately 8km to the north-east. The high water quality of the canal is due to the wider catchment of its feeder reservoir comprising semi-natural habitat such as heathland at Cuckoo Bank. There is little intensive agriculture in the catchment so water quality is good.

6.6 The high-water quality, uneven canal bottom and the low volume of boat traffic have allowed a diverse aquatic flora to develop without any extensive reed-swamp incursion. The good water quality, low in plant nutrients, prevents dominant species such as reedmace, filamentous algae and invasive alien species such as Elodea species from dominating.

6.7 The large population of the nationally scarce floating water-plantain *Luronium natans*, found throughout the length of the canal, often carpeting it in places, is the best-known colony in both Staffordshire and the West Midlands, and is considered to be one of the best areas in the United Kingdom for the species. In addition, a

[18] https://designatedsites.naturalengland.org.uk/TerrestrialAdvicePDFs/UK0012672.pdf

total of 34 aquatic plants have been recorded from the canal, making it the richest known waterway of its type in Staffordshire and the West Midlands and placing it high within the national canal network series.

6.8 Risks to the canal will relate to Chasewater Reservoir and any potential nutrient loading that could result from development within the Reservoir catchment. This is likely to be minimal as the area is a SSSI and country park, beyond which there is existing housing and development with little scope for additional growth. Further checks should be undertaken at the Regulation 19 stage for any components of the Plan which may have implications for water quality, for example through run-off. There is very little flow within the Canal and no conceivable risks that water levels might be affected by anything within the Plan.

River Mease SAC

6.9 The River Mease arises in North West Leicestershire and flows westwards through Derbyshire and Staffordshire for around 25km across a largely rural and agricultural landscape to its confluence with the Trent at Croxall. It is a small tributary of the River Trent system and represents a relatively unmodified lowland river with a diverse range of in-channel features, including riffles, pools, shoals, vegetated channel margins and bank side tree cover.

6.10 It qualifies as an SAC for the presence of the floating vegetation often dominated by water-crowfoot, white-clawed crayfish, spined loach, bull head and otter.

6.11 Natural England's supplementary conservation advice indicates that the site is not meeting its flow targets due to excess water from discharges entering the river system. Similarly, it is not meeting water quality targets, with a need to restore target set for nutrients, organic pollution and other pollutants.

6.12 Wastewater or sewage can be very damaging to water bodies as it can contain large amounts of nutrients (such as phosphorus and nitrates), ammonia, bacteria, harmful chemicals and other damaging substances. Issues arise where sewage treatment technology to adequately reduce levels of phosphorus and harmful chemicals is not in place, where leakages occur from privately owned septic tanks and, in wet weather, storm overflows can discharge untreated sewage. Poorly installed domestic washing machines and even washing cars at home can, in places, also add to the pollution load. Outcomes can include increased turbidity, algal blooms, reduced dissolved oxygen and an overall increase in the nutrient status of receiving waterbodies. Simply, increases in housing increase pressure on the sewage network and the volume of wastewater.

6.13 Water quality has received greater recognition in recent years and the significance of such potential impacts and the need to mitigate has been given emphasis by Natural England's demands. These state that new development affecting vulnerable water bodies must achieve 'nutrient neutrality', i.e. avoid any net increase in nitrate and phosphate pollution. Whilst this relates primarily to the disposal of foul water, run-off from hard surfaces can also be a factor. This reflects contemporary case law (the Dutch case) which makes clear that where water quality targets of European sites are not being met, further inputs of pollutants should not be allowed.

6.14 Natural England have confirmed that development in the River Mease catchment should not proceed if it increases levels of nutrients or results in eutrophication. The Council should therefore only promote or approve development which is it is 'nutrient neutral'. The River Mease Partnership[19], which includes Lichfield District Council, has for some years been working to find solutions to ensure the conservation objectives for the River are met. The Partnership have established a Developer Contributions Scheme (DCS1 & DCS2), which is now being updated to ensure nutrient neutrality. The Partnership website provides methods to calculate nutrient loads and other guidance.

Different spatial options

6.15 With respect to the Cannock Chase Extension Canal, any option that promotes growth within the Chasewater Reservoir catchment and that would have the potential to impact the water quality of the Reservoir, should either not be supported or necessary checks and mitigation secured. Burntwood is likely to be a key location for growth, but that growth is likely to be outside the Reservoir catchment. The Council should ensure any growth scenarios that include sites in the catchment are deliverable and further checks will be necessary once the level of growth and locations are finalised.

6.16 In order to be able to conclude no adverse effects on integrity for the River Mease SAC at the next iteration of the Plan, it will be necessary to ensure that the Plan does not result in further impacts to either flow or quality. Any development that is within the catchment and not nutrient neutral should not be supported by the Plan.

6.17 A range of growth scenario options are presented by the Council in the Plan. Options 1, 2 and 3 are focussed outside the catchment. For Option 4, one of the

[19] https://rivermease.co.uk/

new settlement options, the Thorpe Estate, Thorpe Constantine site is directly within the catchment. Any growth at this location should only be promoted should it be possible to ensure nutrient neutrality.

Implications for appropriate assessment at Regulation 19

6.18 Risks are identified for the Cannock Chase Extension Canal SAC and the River Mease SAC. Further checks at the next iteration of the Plan should ensure that:

- No development is allocated or promoted that might impact water quality for the Chasewater Reservoir or Cannock Extension Canal SAC;
- Any development within the catchment of the River Mease SAC can only come forward if can demonstrate nutrient neutrality.
- There is sufficient headroom to provide water for the overall level of growth (once finalised) without risks to the European sites.

7. Appropriate assessment topic: Air quality

7.1 Development will typically lead to an increase in traffic and emissions which can in turn result in an increase the airborne concentration of nitrogen oxides (NO_x) and ammonia (NH_3), and the subsequent rate of nitrogen deposition from the atmosphere. This can lead to the nutrient enrichment and acidification of soils, encouraging more tolerant ruderal species at the expense of sensitive plant, lower plant and invertebrate communities. In high concentrations, ammonia can result in direct toxic effects on vegetation, a factor which may also be true of NO_x. Larger animals, such as small mammals and birds are considered immune to direct effects but can be vulnerable to change in their supporting habitats. Furthermore, it can exacerbate the effects of other factors such as climate change or pathogens, for example.

7.2 Likely significant effects are possible from the overall cumulative levels of growth proposed and relate to Cannock Chase SAC and the Cannock Chase Extension Canal SAC.

Traffic modelling and dispersion modelling

7.3 A detailed air quality assessment (Shelton, 2024) has been completed to consider the potential in-combination impacts of the proposed Partnership Authorities emerging Local Plans on potentially sensitive European sites within the region. Sites relevant to the Lichfield Local Plan that were included were Cannock Chase SAC and Cannock Extension Canal SAC.

7.4 This study included a baseline review that found:

- Annual mean NO_x concentrations are expected to remain demonstrably below the annual mean critical level (30 µg/m^3) at both sites;
- The annual mean NH_3 background concentrations exceed the relevant critical levels at Cannock Chase SAC, but not Cannock Chase Extension Canal SAC;
- Background N deposition rates in both the baseline and future years are projected to exceed the respective lower critical loads at both European sites
- Background acid (N) deposition at Cannock Chase SAC (the one site known to be sensitive to acidification) are reported to exceed the lower critical loads.

7.5 The key outcomes from the dispersion modelling, pertaining to the in-combination impacts calculated as the difference in air pollutant concentrations / deposition rates between the 2042 Alternative Future Baseline and 2042 With Partnership Local Plans scenarios, were:

- Annual mean NOx results indicated the potential for in-combination impacts above the 1% significance screening criterion within Cannock Chase SAC and Cannock Extension Canal SAC, however the maximum annual mean concentrations in all sites are predicted to remain below the critical level in the 2042 With Partnership Local Plans scenario.
- The annual mean NH3 results confirmed in-combination impacts above the 1% significance screening criterion occur within both sites. Annual mean NH3 levels within Cannock Chase SAC were expected to exceed the respective critical levels in both the Future Baseline and With Plans scenarios. The majority of Cannock Extension Canal SAC was predicted to remain below the relevant critical level, however there were isolated exceedances or near-exceedances in the With Plans scenario.
- The Nitrogen deposition results confirmed in-combination impacts above the 1% significance screening criterion within both sites, annual N deposition rates were predicted to exceed the respective lower critical loads under both scenarios tested, principally due to high background levels.
- The Acid (N) deposition results revealed in-combination impacts above the 1% significance screening criterion occur within Cannock Chase SAC with the impacts limited to roadside locations. Annual acid deposition rates within Cannock Chase SAC are expected to exceed the respective critical loads in both the Future Baseline and With Plans scenarios for all of the site.

7.6 Maps 4 (Cannock Chase SAC) and 5 (Cannock Extension Canal) show the extent of each SAC that lies within 200m of a road and also indicates the relevant parts of the site where 1% thresholds (any pollutant) are exceeded. Relevant road sections are coloured according to the type of road.

Options

7.7 The Plan identifies 4 different spatial options for growth. Cannock Chase SAC lies, at its closest, 2.7km to the District boundary, with development in the Rugeley area likely to particularly influence traffic around the European site. Development in Rugeley is likely to have implications for traffic on the A460 and A513, and therefore the parts of the site predicted from the dispersion modelling to be affected (e.g. with respect to NH3).

7.8 The Cannock Chase Extension Canal SAC lies 1.2km from the District boundary and development in the west of the District, around Burntwood in particular will be relevant to traffic increases on the A5.

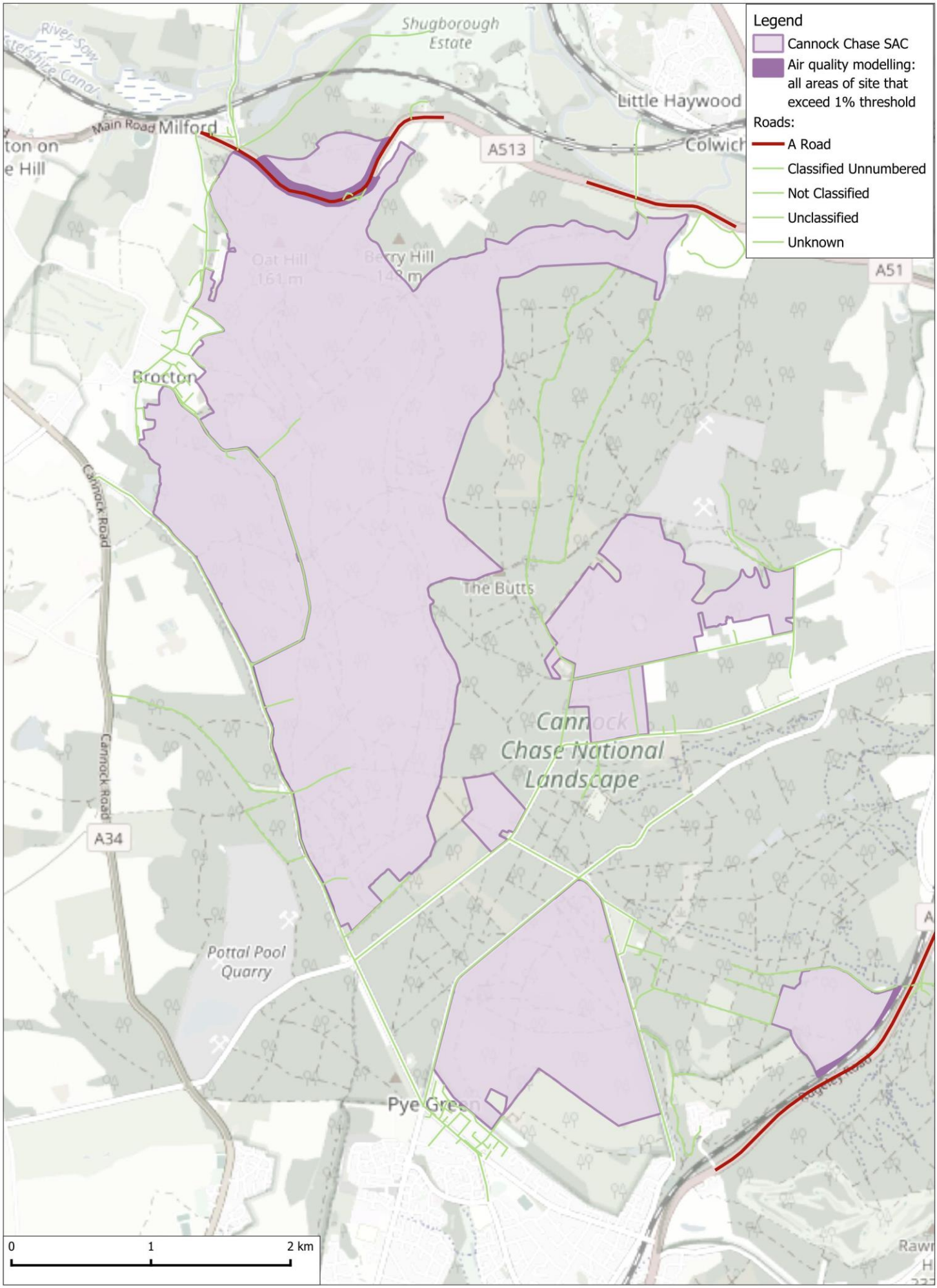
7.9 As such air quality risks are likely to result from all spatial options, with potentially options 1 and 2 posing the greatest risk.

Implications for appropriate assessment at Regulation 19

7.10 Prior to undertaking the appropriate assessment, discussion on air quality impacts and advice from Natural England should be sought. Risks are identified for Cannock Chase SAC and Cannock Chase Extension Canal SAC and dispersion modelling indicates a wide area of Cannock Chase Extension Canal SAC is likely to be affected by Plan-led growth within Lichfield and neighbouring authorities.

7.11 At Regulation 19 it will be necessary to ensure that the dispersion modelling and air quality work is based on traffic flows that reflect the growth in the Plan and to incorporate the views of Natural England. Mitigation may be necessary and this will need to be identified and planned prior to the HRA work to ensure that a conclusion of no adverse effect on integrity from air quality, alone or in-combination, can be reached.

Map 4: Cannock Chase SAC



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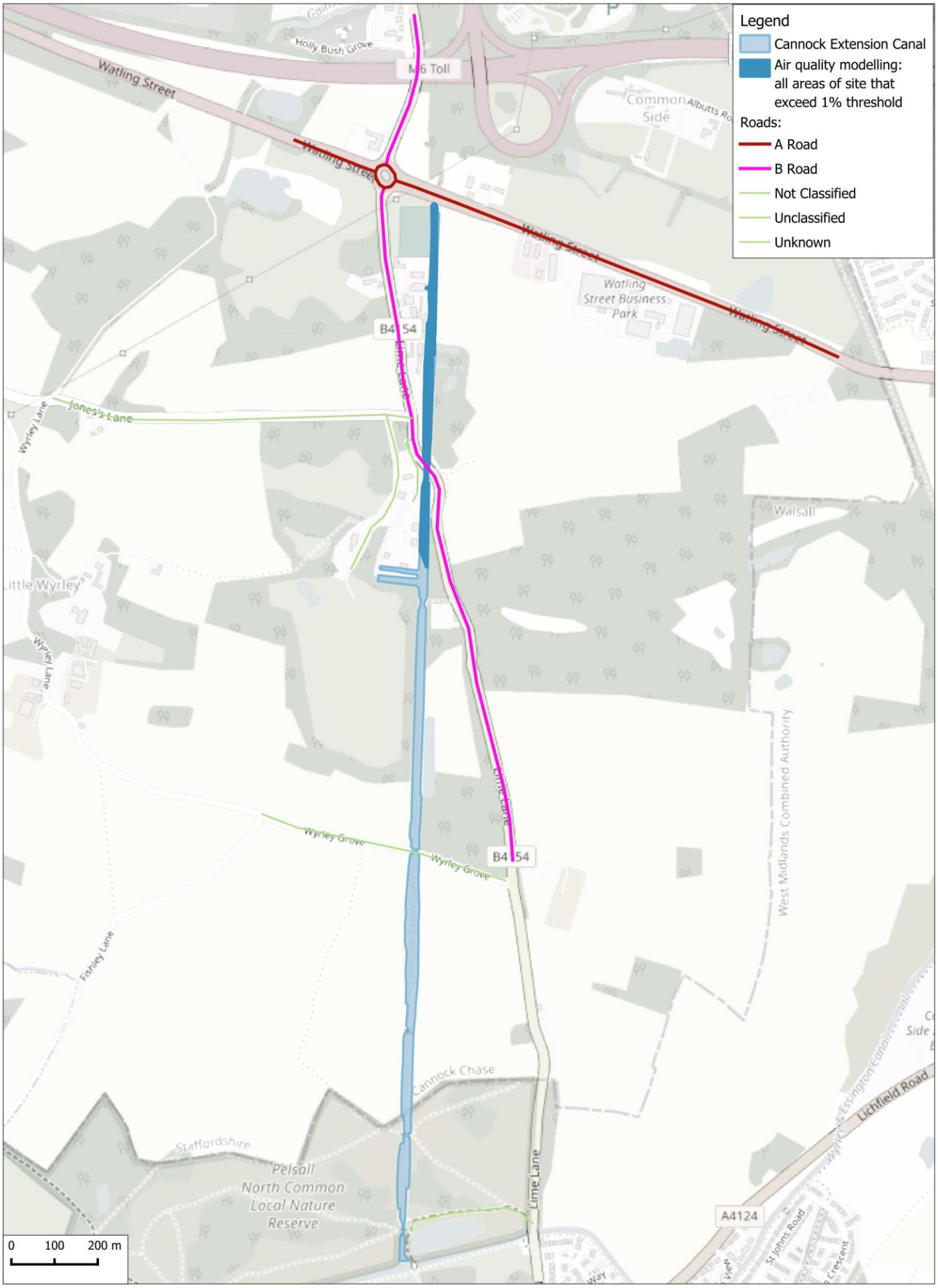
Map 5: Cannock Chase Extension Canel SAC



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Appendix 1: Appendix 1: European Site Conservation Objectives

As required by the Directives, 'Conservation Objectives' have been established by Natural England and these define the required ecologically robust state for each European site interest feature. All sites should be meeting their conservation objectives.

When being fully met, each site will be adequately contributing to the overall favourable conservation status of the species or habitat interest feature across its natural range. Where conservation objectives are not being met at a site level, and the interest feature is therefore not contributing to overall favourable conservation status of the species or habitat, plans should be in place for adequate restoration.

Natural England has embarked on a project to renew all European site Conservation Objectives, in order to ensure that they are up to date, comprehensive and easier for developers and consultants to use to inform project level Habitats Regulations Assessments in a consistent way. In 2012, Natural England issued now a set of generic European site Conservation Objectives, which should be applied to each interest feature of each European site.

The generic Conservation Objectives for each European site include an overarching objective, followed by a list of attributes that are essential for the achievement of the overarching objective. Whilst the generic objectives are standardised, they are to be applied to each interest feature of each European site, and the application and achievement of those objectives will therefore be site specific and dependant on the nature and characteristics of the site. The more detailed site-specific information to underpin these generic objectives, provides much more site-specific information, and this detail plays a fundamental role in informing HRA, and importantly gives greater clarity to what might constitute an adverse effect on a site interest feature.

For SPAs the overarching objective is to:
'Avoid the deterioration of the habitats of qualifying features, and the significant disturbance of the qualifying features, ensuring the integrity of the site is maintained and the site makes a full contribution to achieving the aims of the Birds Directive.'
This is achieved by, subject to natural change, maintaining and restoring:

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

For SACs the overarching objective is to:

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

- The extent and distribution of qualifying natural 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

Conservation objectives inform any HRA of a plan or project, by identifying what the interest features for the site should be achieving, and what impacts may be significant for the site in terms of undermining the site's ability to meet its conservation objectives.

Appendix 2: Conservation Interest of European Sites

Links in the table cross-reference to the Natural England website and the relevant page with the site's conservation objectives. In the qualifying features column, for SPAs NB denotes non-breeding and B breeding features. For SACs, # denotes features for which the UK has a special responsibility. The descriptive text is adapted from Natural England's SIP. For Ramsar sites, the qualifying features and description are drawn from the Ramsar spreadsheet on the JNCC website[20], and the link cross-references to the Ramsar site information page.

Site	Reason for designation (# denotes UK special responsibility)	Pressures and threats (from relevant SIP)	
Cannock Chase SAC	H4010 Northern Atlantic wet heaths with *Erica tetralix* H4030 European dry heaths	Undergrazing, drainage, hydrological changes, disease, air pollution (risk of atmospheric nitrogen deposition), wildfire/arson, invasive species.	Cannock Chase is a large, diverse area of semi-natural vegetation comprising the most extensive area of lowland heathland in the Midlands with alder woodland, oak wood pasture and valley mires. The character of the vegetation is intermediate between the upland or northern heaths of England and Wales and those of southern counties. It is home to breeding Nightjar, Woodlark, occasionally Dartford warbler and a diverse invertebrate fauna.

[20] http://archive.jncc.gov.uk/default.aspx?page=2392

Site	Reason for designation (# denotes UK special responsibility)	Pressures and threats (from relevant SIP)	
Cannock Extension Canal SAC	S1831 *Luronium natans*: Floating water-plantain	Water pollution, overgrazing, invasive species, air pollution (risk of atmospheric nitrogen deposition).	Cannock Extension Canal SAC supports the largest known population of Floating Water-plantain *Luronium natans* in Staffordshire. Floating water-plantain is a rare, small white-flowered water plant only found in Europe. In the UK it is considered a nationally scarce plant. It is found in Wales, and central England, growing in lakes, reservoirs, ponds, slow-flowing rivers and canals. Floating water-plantain occurs as two forms: in shallow water with floating oval leaves; in deep water with submerged rosettes of narrow leaves. The assemblage of 34 aquatic plant species places this site in the top 20% of British canals. The site also has a good dragonfly assemblage.
Ensor's Pool SAC	S1092 *Austropotamobius pallipes*: White-clawed (or Atlantic stream) crayfish	Changes in species distributions.	Ensor`s Pool SAC is an abandoned clay pit on the Western edge of Nuneaton, North Warwickshire. The pool is 3.79 ha in size with an average depth of 8m and is ground water fed. It is designated as SAC because is held the largest known population of white-clawed crayfish for a waterbody in England.
Fens Pools SAC	S1166 *Triturus cristatus*: Great crested newt	Overgrazing, inappropriate scrub control, disease, water pollution, habitat fragmentation.	Fens Pool is located in the heart of the Dudley urban area. It is an SAC for its assemblage of Great Crested Newts and a SSSI for open and standing water as well as Amphibian populations. The Great Crested Newts are under constant pressure from activities including: fly tipping; off road vehicles; unlicenced grazing and under-management of areas including the pools, woodland and scrub areas.
Mottey Meadows SAC	H6510 Lowland hay meadows (*Alopecurus pratensis*, *Sanguisorba officinalis*)	Water pollution, hydrological change, water abstraction, change in land management.	This site is an outstanding floristically-diverse mesotrophic grassland where traditional late hay cutting and aftermath grazing has been perpetuated,

Site	Reason for designation (# denotes UK special responsibility)	Pressures and threats (from relevant SIP)	
			largely unaffected by modern agricultural practices. The site is important because of its large size, variety of grassland community types and presence of rare species. Furthermore it contains an extensive example of an alluvial flood meadow.
Pasturefields Salt Marsh SAC	H1340# Inland salt meadows	None.	Pasturefields Salt Marsh SAC is in the River Trent floodplain and is one of only two known extant brine marshes in the country. This extremely rare habitat contains a number of halophytic plants and is locally important for breeding waders including snipe, redshank and lapwing.
River Mease SAC	H3260 Water courses of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation S1092 *Austropotamobius pallipes*: White-clawed (or Atlantic stream) crayfish S1149 *Cobitis taenia*: Spined loach S1163 *Cottus gobio*: Bullhead S1355 *Lutra lutra*: Otter	Water pollution, drainage, inappropriate weirs, dams and other structures, invasive species, siltation, water abstraction.	The River Mease is representative of a relatively un-modified clay lowland river which supports nationally significant populations of Spined Loach *Cobitis taenia* and Bullhead *Cottus gobio*, both of which are of International importance. Other interest features include freshwater White-clawed Crayfish *Austropotamoius pallipes* and Otter *Lutra lutra*, both have restricted distribution within the East Midlands.
West Midlands Mosses SAC (note this SAC is comprised of four SSSIs, of which Chartley Moss SSSI is the only one within 20km of Lichfield District)	H3160 Natural dystrophic lakes and ponds H7140 Transition mires and quaking bogs	Water pollution, hydrological change, air pollution (risk of atmospheric nitrogen deposition), inappropriate scrub control, game management (pheasant rearing), forestry and woodland management, habitat fragmentation.	The West Midlands Mosses comprises four sites: Clarepool Moss, Abbots Moss, Chartley Moss and Wybunbury Moss. These support 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.

Site	Reason for designation (# denotes UK special responsibility)	Pressures and threats (from relevant SIP)	
Chartley Moss also lies within the Midlands Meres and Mosses Phase I Ramsar	Ramsar criterion 1: The site comprises a diverse range of habitats from open water to raised bog; 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).		