

Habitat Regulation Assessment of the Worcestershire Local Transport Plan 4 **HRA Screening Report** September 2016



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Acronyms

AA Appropriate Assessment

DEFRA Department for Environment, Food, and Rural Affairs

GIS Geographic Information Systems

HRA Habitats Regulations Assessment / Appraisal

IPENS Improvement Programme for England's Natura 2000 sites

JNCC Joint Nature Conservation Committee

LPA Local Planning Authority

LSE Likely Significant Effect

LTP4 Worcestershire Local Transport Plan 4

NE Natural England

NPPF National Planning Policy Framework

SAC Special Area of Conservation

SIP Site Improvement Plan

SNH Scottish Natural Heritage

SPA Special Protection Area

SSSI Site of Special Scientific Interest

Executive Summary

- E1** This HRA report has carefully considered the conservation objectives of European sites that might be associated with activities and projects as part of the LTP4.
- E2** There are two sites of European importance within Worcestershire and a further four that lie within 15km of the county. Lepus identified four sites that lie further than 15km from Worcestershire, but are located along rivers that flow through the county.
- E3** The following ten sites are included in this HRA report:
- Lyppard Grange Ponds SAC;
 - Bredon Hill SAC;
 - River Wye SAC;
 - Downton Gorge SAC;
 - Fens Pools SAC;
 - Dixton Wood SAC;
 - River Clun SAC; and Severn Estuary SPA, SAC and Ramsar sites.
- E4** A number of threats and pressures facing these sites were explored during the assessment, particularly with regards to air quality.
- E5** It is recommended that the Worcestershire LTP3 be screened out of the HRA process.

1 Introduction

1.1 Background

1.1.1 Lepus Consulting has prepared this Habitats Regulations Assessment (HRA) report of the Worcestershire County Council Local Transport Plan 4 (LTP4) on behalf of Worcestershire County Council. This is a requirement of Regulation 102 of the Conservation of Habitats and Species Regulations 2010 (the Habitats Regulations).

1.1.2 The following European sites were identified using a 15km area of search around Worcestershire, as well as including sites which are potentially connected (e.g. hydrologically) beyond this distance:

- Lyppard Grange Ponds SAC;
- Bredon Hill SAC;
- River Wye SAC;
- Downton Gorge SAC;
- Fens Pools SAC;
- Dixton Wood SAC;
- River Clun SAC;

1.1.3 Whilst Ramsar sites are not European sites, NPPF paragraph 118 states that Ramsar sites should be given the same protection as European sites. For the purpose of this report, the phrase 'European site' includes Ramsar sites, along with Special Protection Areas (SPAs) and Special Areas of Conservation (SACs) unless otherwise stated.

1.1.4 The nature of, conservation objectives of, and pressures and threats facing each site have been explored in this report.

1.2 Approach to report preparation

1.2.1 The outputs of this report include information in relation to:

- The HRA process;
- Methodology for HRA;
- Evidence gathering in relation to European sites;
- Conservation objectives of sites;
- Understanding threats and pressures relevant to each site;
- Conclusions and recommendations.

1.3 The HRA process

1.3.1 The application of HRA to land-use plans is a requirement of the Conservation of Habitats and Species Regulations 2010, the UK's transposition of European Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (the Habitats Directive). HRA applies to plans and projects, including all Local Development Documents in England and Wales.

1.3.2 The HRA process assesses the potential effects of a plan or project against the conservation objectives of any European sites designated for their importance to nature conservation. These sites form a system of internationally important sites throughout Europe and are known collectively as the 'Natura 2000 network'.

1.3.3 European sites provide valuable ecological infrastructure for the protection of rare, endangered or vulnerable natural habitats and species

of exceptional importance within the EU. These sites consist of SACs, designated under the Habitats Directive and SPAs, designated under European Directive 2009/147/EC on the conservation of wild birds (the Birds Directive). Additionally, Government policy requires that sites

designated under the Ramsar Convention (The Convention on Wetlands of International Importance, especially as Waterfowl Habitat) are to be treated as if they are fully designated European sites for the purpose of considering development proposals that may affect them.

1.3.4 Under Regulation 102 of the Habitats Regulations, the assessment must determine whether or not a plan will adversely affect the integrity of the European sites concerned. The process is characterised by the precautionary principle. The European Commission describes the precautionary principle as follows:

1.3.5 “If a preliminary scientific evaluation shows that there are reasonable grounds for concern that a particular activity might lead to damaging effects on the environment, or on human, animal or plant health, which would be inconsistent with protection normally afforded to these within the European Community, the Precautionary Principle is triggered.”

1.3.6 Decision-makers then have to determine what action/s to take. They should take account of the potential consequences of no action, the uncertainties inherent in scientific evaluation, and should consult interested parties on the possible ways of managing the risk. Measures should be proportionate to the level of risk, and to the desired level of protection. They should be provisional in nature pending the availability of more reliable scientific data.

1.3.7 Action is then undertaken to obtain further information, enabling a more objective assessment of the risk. The measures taken to manage the risk should be maintained so long as scientific information remains inconclusive and the risk is unacceptable.

1.3.8 The hierarchy of intervention is important: where significant effects are likely or uncertain, plan makers must firstly seek to avoid the effect through, for example, a change of policy. If this is not possible, mitigation measures should be explored to remove or reduce the significant effect. If neither avoidance, nor subsequently, mitigation is possible, alternatives to the plan should be considered. Such alternatives

should explore ways of achieving the plan’s objectives that do not adversely affect European sites.

1.3.9 If no suitable alternatives exist, plan-makers must demonstrate under the conditions of Regulation 103 of the Habitats Regulations, that there are Imperative Reasons of Overriding Public Interest (IROPI) in order to continue with the proposal.

1.4 About the LTP4

1.4.1 The Worcestershire Local Transport Plan focuses on attracting and supporting economic investment and growth, by delivering transport infrastructure and services. The LTP4 aims to tackle congestion and improve quality of life by making the transport system in Worcestershire more effective and efficient.

1.4.2 The proposed policies for the LTP4 have been considered in the preparation of this HRA. These are presented in Appendix C.

1.5 HRA process to date

1.5.1 The HRA process is iterative and assesses different stages of the plan making process. The HRA process of this report draws on the updated methodology prepared by David Tyldesley Associates for Scottish Natural Heritage (2015), as explained in Section 2.1. This methodology sets out 13 stages of the HRA process, shown in Table 2.1.

1.5.2 Worcestershire County Council has determined the need for HRA and has commissioned Lepus Consulting to undertake the scoping and screening stages for the LTP4. This report constitutes a screening report, which includes the completion of stages 1-7 (Table 2.1).

2 Methodology

2.1 Guidance and best practice

2.1.1 Guidance on HRA has been published in draft form by the Government (DCLG, 2006) and Natural England in conjunction with David Tyldesley Associates (Local Development Plan Documents under the Provisions of the Habitats Regulations, 2009); both draw, in part, on European Union guidance (European Commission, 2001) regarding the methodology for undertaking appropriate assessment (AA) of plans.

2.1.2 All guidance recognises that there is no statutory method for undertaking HRA and that the adopted method must be appropriate to its purpose under the Habitats Directive and Regulations; this concept is one of the reasons why HRA is often referred to as appropriate assessment.

2.1.3 In the absence of finalised guidance from the Government, Natural England has suggested that the updated guidance on HRA published by Scottish Natural Heritage (SNH, 2015) can be used to assess land use plans.

2.1.4 For the purposes of this report Habitats Regulations Appraisal and Habitats Regulations Assessment are synonymous.

2.1.5 Paragraph 1.3 of the SNH guidance states that “the procedure referred to in this guidance is that of ‘Habitats Regulations Appraisal’ (HRA) which encompasses the requirements of Article 6(3) of the Habitats Directive...The procedure is sometimes referred to as an ‘appropriate assessment’, but this can be confusing because an appropriate assessment is only one particular stage in the process of Habitats Regulations Appraisal. Not all plans undergoing Habitats Regulations Appraisal will reach the stage of appropriate assessment, because some plans would not be likely to have a significant effect on a European site”.

2.1.6 The term ‘Habitats Regulations Appraisal’ is used here to encompass the decision on whether the plan should be subject to appraisal, the ‘screening’ process for determining whether an ‘appropriate assessment’ is required, as well as any ‘appropriate assessment’ that may be required. It is important to remember that an appropriate assessment is only required where the plan-making body determines that the plan is likely to have a significant effect on a European site in Great Britain, or a European Offshore Marine Site, either alone or in combination with other plans or projects, and the plan is not directly connected with or necessary to the management of the site.

2.2 Habitats Regulations Assessment methodology

2.2.1 This HRA follows the methodology prepared by David Tyldesley Associates for Scottish Natural Heritage (SNH, 2015). A step-by-step methodology is outlined in the guidance (see Appendix B) and has been summarised in Table 2.1. Stages 1 to 7 are relevant to this report.

2.3 Dealing with uncertainty

2.3.1 The assessment of effects can be affected by uncertainty in a number of ways; some of these are addressed below.

2.3.2 Regulatory Uncertainty: Some plans will include references to proposals that are planned and implemented through other planning and regulatory regimes, for example, trunk road or motorway improvements. These will be included because they have important implications for spatial planning, but they are not proposals of the Local Planning Authority (LPA), nor are they proposals brought forward by the plan itself. Their potential effects will be assessed through other procedures. The LPA may not be able to assess the effects of these proposals. Indeed, it may be inappropriate for them to do so, and would also result in unnecessary duplication.

2.3.3 There is a need to focus the Habitats Regulations Assessment on the proposals directly promoted by the plan, and not all and every

proposal for development and change, especially where these are planned and regulated through other statutory procedures, which will be subject to HRA.

2.3.4 Planning Hierarchy Uncertainty: The higher the level of a plan in the hierarchy the more general and strategic its provisions will be and therefore the more uncertain its effects will be. The protective regime of the Directive is intended to operate at differing levels. In some circumstances assessment ‘down the line’ will be more effective in assessing the potential effects of a proposal on a particular site and protecting its integrity. However, three tests should be applied.

2.3.5 It will be appropriate to consider relying on the HRA of lower tier plans, in order for an LPA to ascertain a higher tier plan would not have an adverse effect on the integrity of a European site, only where:

A] The higher tier plan assessment cannot reasonably assess the effects on a European site in a meaningful way; whereas

B] The HRA of the lower tier plan, which will identify more precisely the nature, scale or location of development, and thus its potential effects, will be able to change the proposal if an adverse effect on site integrity cannot be ruled out, because the lower tier plan is free to change the nature and/or scale and/or location of the proposal in order to avoid adverse effects on the integrity of any European site (e.g. it is not constrained by location specific policies in a higher tier plan); and

C] The HRA of the plan or project at the lower tier is required as a matter of law or Government policy.

2.3.6 It may be helpful for the HRA of the higher tier plan to indicate what further assessment may be necessary in the lower tier plan.

2.3.7 Implementation Uncertainty: In order to clarify the approach where there is uncertainty because effects depend on how the plan is implemented, and to ensure compliance with the Regulations, it may be appropriate to impose a caveat in relevant policies, or introduce a free-standing policy, which says that any development project that could

have an adverse effect on the integrity of a European site will not be in accordance with the plan.

2.3.8 This would help to enable the assessors to reasonably conclude, on the basis of objective information, that even where there are different ways of implementing a plan, and even applying the precautionary principle, no element of the plan can argue that it draws support from the plan, if it could adversely affect the integrity of a European site.

2.4 Likely significant effect

2.4.1 The plan and its component policies are assessed to determine and identify any potential for ‘likely significant effect’ (LSE) upon European sites. The guidance (SNH, 2015) provides the following interpretation.

2.4.2 “A likely effect is one that cannot be ruled out on the basis of objective information. The test is a ‘likelihood’ of effects rather than a ‘certainty’ of effects. Although some dictionary definitions define ‘likely’ as ‘probable’ or ‘well might happen’, in the Waddenzee case the European Court of Justice ruled that a project should be subject to appropriate assessment “if it cannot be excluded, on the basis of objective information, that it will have a significant effect on the site, either individually or in combination with other plans and projects”. Therefore, ‘likely’, in this context, should not simply be interpreted as ‘probable’ or ‘more likely than not’, but rather whether a significant effect can objectively be ruled out”.

Table 2.1: Synoptic version of the flow chart in Appendix B identifying screening and appropriate assessment stages within the HRA process

Group		HRA Stage
Determination of Need and Compilation of Evidence Base	Stage 01	Determination of need
	Stage 02	Identification of European sites that should be considered in the appraisal
	Stage 03	Gathering information on European sites
	Stage 04	Discretionary discussions on the method and scope of the appraisal
Screen all aspects of plan (Screening)	Stage 05	Screening the plan
	Stage 06	Applying mitigation measures at screening stage to avoid likely significant effects
	Stage 07	Rescreen the plan and decide on the need for appropriate assessment
Appropriate Assessment	Stage 08	The appropriate assessment – site integrity, conservation objectives and the precautionary principle
	Stage 09	Amending the plan until there would be no adverse effects on site integrity
Consultation of Draft	Stage 10	Preparing a draft of HRA
	Stage 11	Consultation
	Stage 12	Proposed modifications
	Stage 13	Modifying and completing HRA

2.5 Limitations

2.5.1 This report has been prepared using the best available data. References are cited in the text where appropriate. Lepus Consulting has collected no primary data in the preparation of this report.

2.5.2 In order to prepare this HRA, Lepus has been supplied with a list of policies that will constitute the LTP4, along with mapped information of the locations where these policies will be implemented. The full plan is still undergoing preparation.

3 European Sites

3.1 About European Sites

3.1.1 Each site of European importance has its own intrinsic qualities, besides the habitats or species for which it has been designated, that enables the site to support the ecosystems that it does. An important aspect of this is that the ecological integrity of each site can be vulnerable to change from natural and human induced activities in the surrounding environment (pressures and threats). For example, sites can be affected by land use plans in a number of different ways, including the direct land take of new development, the type of use the land will be put to (for example, an extractive or noise-emitting use), the pollution a development generates and the resources used (during construction and operation for instance).

3.1.2 An intrinsic quality of any European site is its functionality at the landscape ecology scale. This refers to how the site interacts with the zone of influence of its immediate surroundings, as well as the wider area. This is particularly the case where there is potential for developments resulting from the plan to generate water or air-borne pollutants, use water resources or otherwise affect water levels. Adverse effects may also occur via impacts to mobile species occurring outside of a designated site but which are qualifying features of the site. For example, there may be effects on protected birds that use land outside the designated site for foraging, feeding, roosting or other activities.

3.2 Identification of relevant European sites

3.2.1 During the screening process, as a starting point to explore and identify which European sites might be affected by the LTP4, a 15km area of search was applied from the boundaries of Worcestershire county. The guidance (SNH, 2015) specifies no specific size of search area, but SNH recommends use of the criteria in Table 3.1 for identification of European sites. Other sites beyond this zone were also reviewed on the basis that they may be connected physiographically.

Selection of European sites	
Criteria	European sites to check
All plans	Sites within the plan area, including those for the criteria listed below
For plans that could affect the aquatic environment	Sites upstream or downstream of the plan area in the case of a river or estuary
	Peatland and other wetland sites with relevant hydrological links to land within the plan area, irrespective of distance from the plan area
For plans that could affect mobile species	Sites which have significant ecological links with land in the plan area, for example, land in the plan area may be used by migratory birds, which also use a SPA, outside the plan area, at different times of year
For plans that could increase recreational pressure on European sites potentially vulnerable to such pressure	European sites in the plan area
	European sites within a reasonable travel distance of the plan area boundaries that may be affected by local recreational or other visitor pressure within the plan area (the appropriate distance in each case will need to be considered on its merits, in light of any available evidence)

Selection of European sites	
For plans that could increase recreational pressure on European sites potentially vulnerable to such pressure	European sites within a longer travel distance of the plan area, which are major (regional or national) visitor attractions such as European sites which are National Nature Reserves where public visiting is promoted, sites in National or Regional Parks, coastal sites and sites in other major tourist or visitor destinations (the appropriate distance in each case will need to be considered on its merits, in light of any available evidence)
For plans that would increase the amount of development	Sites that are used for, or could be affected by, water abstraction in or close to the plan area
	Sites used for, or which could be affected by, discharge or effluent from waste water treatment works or other waste management streams serving land in the plan area, irrespective of distance from the plan area
	Sites that could be affected by transport or other infrastructure (e.g. by noise or visual disturbance)
	Sites that could be affected by increased deposition of air pollutants arising from the proposals, including emissions from significant increases in traffic
For plans that could affect the coast	Sites in the same coastal 'cell', or part of the same coastal ecosystem, or where there are interrelationships with or between different physical coastal processes

3.3 Ecological Information

3.3.1 Table 3.1 presents information about the criteria used for the identification of European sites in the HRA process. Appendix A identifies the qualifying features of each site and presents details of conservation objectives for each of the sites identified as potentially being affected by the LTP4. This information is drawn from the Joint Nature Conservancy Council (JNCC) and Natural England (NE).

4 Potential Effects

4.1 Introduction

4.1.1 Baseline research identified the following sites for assessment:

- Lyppard Grange Ponds SAC;
- Bredon Hill SAC;
- River Wye SAC;
- Downton Gorge SAC;
- Fens Pools SAC;
- Dixton Wood SAC;
- River Clun SAC; and
- Severn Estuary SPA, SAC and Ramsar sites.

4.1.2 European Sites within 15km of Worcestershire are illustrated in Figure 4.1. Other sites are associated with watercourses that run through the county.

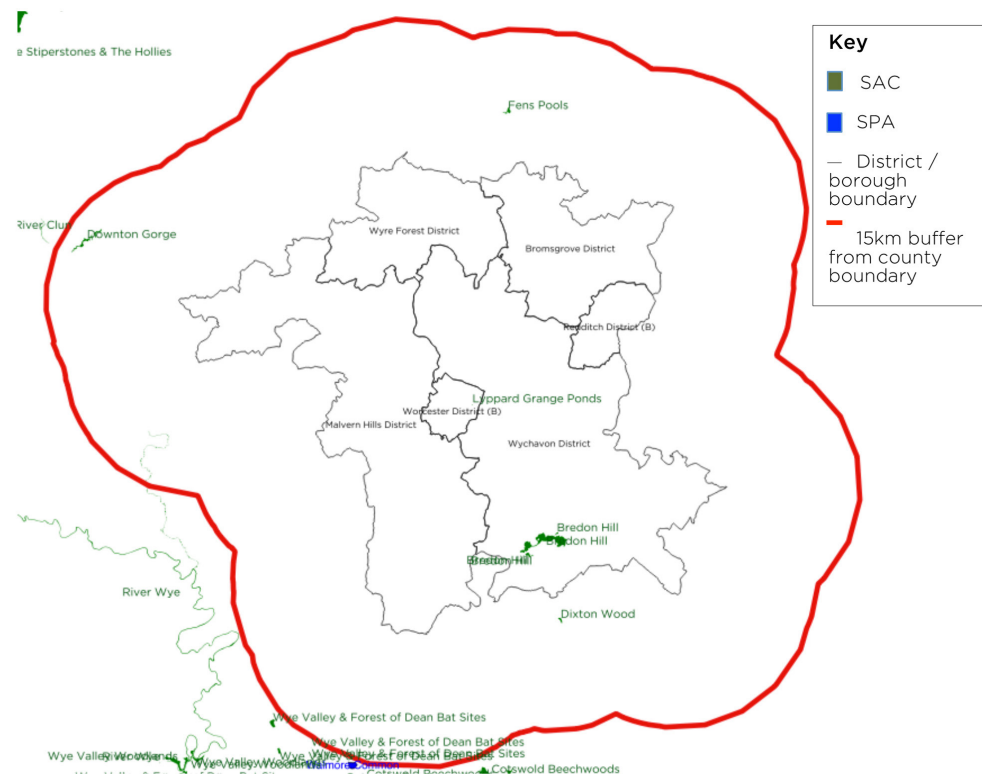


Figure 4.1: Map illustrating location of European Sites (SPAs, SACs and Ramsar sites) and a 15km buffer around Worcestershire

4.2 Screening out sites

4.2.1 Most sites falling outside the administrative boundary of the Worcestershire county boundary were screened out of further assessment. This is due to the fact that changes in traffic flows are likely to be restricted to settlements within the county and are unlikely to have a significant influence beyond the plan area. None of the sites identified in Section 4.1 are designated for highly mobile species that are likely to have a large home range. The exception to this is the River Wye SAC, but this watercourse does not pass through the county. The Severn Estuaries sites (SPA, SAC and Ramsar) are considered further, as the River Severn flows through Worcestershire. Qualifying species for each of the sites in Section 4.1 are detailed in Appendix A.

4.3 Conservation Objectives

4.3.1 The Waddenzee case³ demonstrates that the effect of a plan or project on a European site cannot be considered to be significant if it 'is not likely to undermine its conservation objectives'. The conservation objectives and qualifying features of each European site are presented in Appendix A. To help determine whether these conservation objectives will be undermined, this report considers whether any existing pressures on or threats to the site will be exacerbated.

4.4 Site pressures and threats

4.4.1 Site pressures and threats have been derived from data held by the JNCC on Natura 2000 Data Forms and Ramsar Information Sheets. These forms detail threats and pressures that would have a negative impact on the SACs. Site Improvement Plans (SIPs) have been developed for each European site as part of the Improvement Programme for England's Natura 2000 sites (IPENS). These set out an overview of current and predicted issues at the site. Information regarding pressures and threats from Natura 2000 Data Forms and SIPs are summarised in Table 4.1 and discussed in the following sections.

³ European Commission Case C-127/02 Reference for a Preliminary Ruling 'Waddenzee' 07/9/2004 (para 45)

Table 4.1: Pressures and threats for European sites that may be affected by the LTP4

European site	Pressures and threats
Lyppard Grange Ponds SAC	Changes in biotic conditions (due to climate change) ^a Changes in species distributions (cause unknown) ^b

European site	Pressures and threats
Bredon Hill SAC	Changes in abiotic conditions (due to climate change) ^{ab} Interspecific floral relations ^a Disease ^b Unknown feature location/extent/condition/threat ^{ab} Air pollution (atmospheric nitrogen deposition) ^{ab} Forestry and woodland management and use ^{ab}
Severn Estuary SAC Severn Estuary SPA	Other urbanisation, industrial and similar ^{ab} Changes in abiotic conditions ^{ab} Human-induced changes in hydraulic conditions Outdoor sports and leisure ^{ab} Modification of cultivation practices ^{ab} Physical modification ^b Coastal squeeze ^b Water pollution ^b Air pollution ^b Marine consents and permits: minerals and waste ^b Fisheries: Recreational marine and estuarine ^b Fisheries: Commercial marine and estuarine ^b Invasive species ^b Marine litter ^b Marine pollution incidents ^b
Severn Estuary Ramsar	Dredging ^a Erosion ^a Recreational/tourism disturbance ^{ab}

a Indicates that this is highlighted as a threat / pressure in the relevant Natura 2000 Data Form or Ramsar Information Sheet

b Indicates that this is highlighted as a threat in the relevant Site Improvement Plan

4.5 Scoping out pressures and threats

4.5.1 The following threats and pressures identified in Table 4.1 have been scoped out of further discussion as they are beyond the influence of the LTP4:

- Changes in biotic conditions (due to climate change);
- Modification of cultivation practices;
- Changes in abiotic conditions (due to climate change);
- Interspecific floral relations (natural biotic and abiotic processes)
- Disease;
- Forest and plantation management and use;
- Dredging;
- Coastal squeeze;
- Marine consents and permits;
- Fisheries;
- Marine litter; and
- Marine pollution incidents.

4.5.2 The following threats and pressures identified in Table 4.1 have been scoped out of further discussion as they are too vague to enable a meaningful assessment:

- Unknown threat or pressure; and
- Changes in species distributions (cause unknown).

4.5.3 It is recommended that more data be collected on this issue. If additional data becomes available, this HRA should be revisited.

4.5.4 In scoping out the above issues, it is considered unlikely that the LTP4 is unlikely to undermine the conservation objectives of Lyppard Grange Ponds SAC.

4.5.5 Many of the threats and pressures identified in relation to the Severn Estuary sites are not relevant to the LTP4, as they relate to issues in closer proximity to the site. The only threat/pressure identified in relation to the Severn Estuary sites that has potential to be significantly affected by the LTP4 is 'Human induced hydraulic conditions'. This allows the Severn Estuary Ramsar site to be screened out of further analysis.

4.6 Air pollution

Vulnerability of European site

4.6.1 Air pollution, in particular, atmospheric nitrogen deposition, has been identified as a pressure at Bredon Hill SAC. Broadleaved deciduous woodland, which makes up the majority of the SAC, is sensitive to nitrogen deposition.

4.6.2 The critical loads of pollutants are defined as “quantitative estimate of exposure to one or more pollutants below which significant harmful effects on specified sensitive elements of the environment do not occur according to present knowledge”⁴.

4.6.3 The critical load of nitrogen deposition for broadleaved deciduous woodland is 10-20 kg/N/ha/yr. Current levels of nitrogen deposition at the site are an average of 27.7 kg/N/ha/yr, which is in exceedence of the critical load⁵.

⁴UNECE (date unavailable) ICP Modelling and Mapping Critical loads and levels approach, available at: <http://www.unece.org/env/lrtap/WorkingGroups/wge/definitions.html>, accessed 20/09/16

⁵ Air Pollution Information Systems (APIS), site relevant critical loads, Bredon Hill SAC, available at: <http://www.apis.ac.uk/srcl/select-a-feature?site=UK0012587&SiteType=SAC&submit=Next>, accessed: 20/9/2016

Effect of LTP4 policies

4.6.4 The Design Manual for Roads and Bridges (DMRB) suggests that air quality impacts from vehicles are most likely to occur within 200m of a road⁶. None of the schemes proposed in the LTP4 are within 200m of Bredon Hill SAC. As such, LTP4 is not expected to have likely significant effects on any European sites.

4.7 Changes in hydraulic conditions

Vulnerability of European site

4.7.1 This threat / pressure can refer to a range of issues. Those that are most likely to arise from the LTP4 will be those that may have effects downstream of where they occur. This can include changes in water flow and composition of the river.

Effect of LTP4 policies

4.7.2 The Bewdley to Wyre Forest Active Travel Corridor, the Worcester to Hallow Active Travel Corridor and the Worcester City Centre Transport Strategy Major Scheme all include areas that cross the River Severn. These schemes are unlikely to lead to changes in water flow as bridges are already present at Worcester to Hallow Active Travel Corridor and the Worcester City Centre Transport Strategy Major Scheme. The Bewdley to Wyre Forest Active Travel Corridor will utilise a previous rail crossing across the river, of which the piles still stand.

4.7.3 It is expected that these schemes will lead to an increase in suspended sediment from construction dust. The effects of this are likely to be minor and remain localised, thus not affecting the Severn Estuary European sites.

5 Conclusions and Recommendations

4.1 Introduction

5.1 Assessment findings

5.1.1 There are six Natura 2000 sites within 15km of Worcestershire.

5.1.2 This HRA report has outlined the threats and pressures that have the potential to undermine the conservation objectives of each European site considered.

5.1.3 It is recommended that the Worcestershire LTP4 be screened out of the HRA process. Should the LTP4 be changed or updated from that which is assessed in this document, the HRA should be revisited.

5.2 Next steps

5.2.1 This report is subject to comments and review by the client team and will then be subject to consultation with Natural England. Any responses from Natural England will be taken into account and this report will be reviewed and amended if possible.

References

David Tyldesley and Associates and Scottish Natural Heritage (2015), Habitats Regulations Appraisal of Plans: Guidance for Plan-making Bodies in Scotland, Version 3.0.

European Commission (2001), Assessment of Plans and Projects Significantly Affecting Natura 2000 Sites: Methodological Guidance on the Provisions of Articles 6(3) and (4) of the Habitats Directive 92/43/EEC

European Commission (1992), Directive 92/43/EEC of 21 May 1992 on the Conservation of Natural Habitats of Wild Fauna and Flora

European Commission (2009), Directive 2009/147/EC on the Conservation of Wild Birds

JNCC (2015), Natura 2000 Standard Data Form: Bredon Hill

JNCC (2015), Natura 2000 Standard Data Form: Dixton Wood

JNCC (2015), Natura 2000 Standard Data Form: Downton Gorge

JNCC (2015), Natura 2000 Standard Data Form: Fens Pools

JNCC (2015), Natura 2000 Standard Data Form: Lyppard Grange Ponds

JNCC (2015), Natura 2000 Standard Data Form: River Clun

JNCC (2015), Natura 2000 Standard Data Form: River Wye

JNCC (2015), Natura 2000 Standard Data Form: Severn Estuary (SAC)

JNCC (2015), Natura 2000 Standard Data Form: Severn Estuary (SPA)

JNCC (1995), Ramsar Information Sheet: Severn Estuary

Natural England (2014) Site Improvement Plan: Lyppard Grange Ponds

Natural England (2015) Site Improvement Plan: Bredon Hill

Appendix A

European site: Conservation Objectives (where available from Natural England).

* Denotes a priority natural habitat or species.

Lyppard Grange Ponds SAC

Conservation objectives:

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

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

Qualifying Features:

S1166: *Triturus cristatus* Great crested newt

Bredon Hill SAC

Conservation objectives:

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

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

Qualifying Features:

S1079: *Limoniscus violaceus* Violet click beetle

Downton Gorge SAC

Conservation objectives:

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

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

Qualifying Features:

H9180: *Tilio-Acerion* forests of slopes, scree and ravines; Mixed woodland on base-rich soils associated with rocky slopes*

Fens Pools SAC

Conservation objectives:

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

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

Qualifying Features:

S1166: *Triturus cristatus* Great crested newt

Dixton Wood SAC

Conservation objectives:

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

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

Qualifying Features:

S1079: *Limoniscus violaceus* Violet click beetle

River Clun SAC

Conservation objectives:

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

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

Qualifying Features:

S1029: *Margaritifera margaritifera* Freshwater pearl mussel

River Wye SAC

Conservation objectives:

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

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

Qualifying Features:

H3260: Water course of plain to montane levels with the *Ranunculion fluitantis* and *Callitricho-Batrachion* vegetation; Rivers with floating vegetation often dominated by water-crowfoot;

H7140: Transition mires and quaking bogs; Very wet mires often identified by an unstable 'quaking' surface;

S1092: *Austropotamobius pallipes* White clawed (or Atlantic stream) crayfish;

River Wye SAC (continued)

Qualifying Features (Continued):

S1095: *Petromyzon marinus* Sea lamprey;

S1096: *Lampetra planeri* Brook lamprey;

S109: *Lampetra fluviatilis* River lamprey;

S1102: *Alosa alosa* Allis shad;

S1103: *Alosa fallax* Twaite shad;

S1106: *Salmo salar* Atlantic salmon;

S1163: *Cottus gobio* Bullhead; and

S1355: *Lutra lutra* Otter.

Severn Estuary SAC

Conservation objectives:

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

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

Qualifying Features:

H1110: Sandbanks which are slightly covered by sea water all the time; Subtidal sandbanks

H1130: Estuaries

H1140: Mudflats and sandflats not covered by seawater at low tide; Intertidal mudflats and sandflats

H1170: Reefs

H1330: Atlantic salt meadows (*Glaucocystis*-*Puccinellietalia maritima*)

Severn Estuary SAC (continued)

Qualifying Features (Continued):

S1095: *Petromyzon marinus* Sea lamprey

S1099: *Lampetra fluviatilis* River lamprey

S1103: *Alosa fallax* Twaite shad

Severn Estuary SPA

Conservation objectives:

Ensure that the integrity of the site is maintained or restored as appropriate, and ensure that the site contributes to achieving the aims of the Wild Birds Directive, by maintaining or restoring;

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

Severn Estuary SPA (continued)

Qualifying Features:

- A037: *Cygnus colombianus bewickii* Bewick's swan (Non-breeding)
- A048: *Tadorna tadorna* Common shelduck (Non-breeding)
- A051: *Anas strepera* Gadwall (Non-breeding)
- A149: *Calidris alpina alpina* Dunlin (Non-breeding)
- A162: *Tringa tetanus* Common redshank (Non-breeding)
- A394: *Anser albifrons albifrons* Greater white-fronted goose (Non-breeding)
- Waterbird assemblage

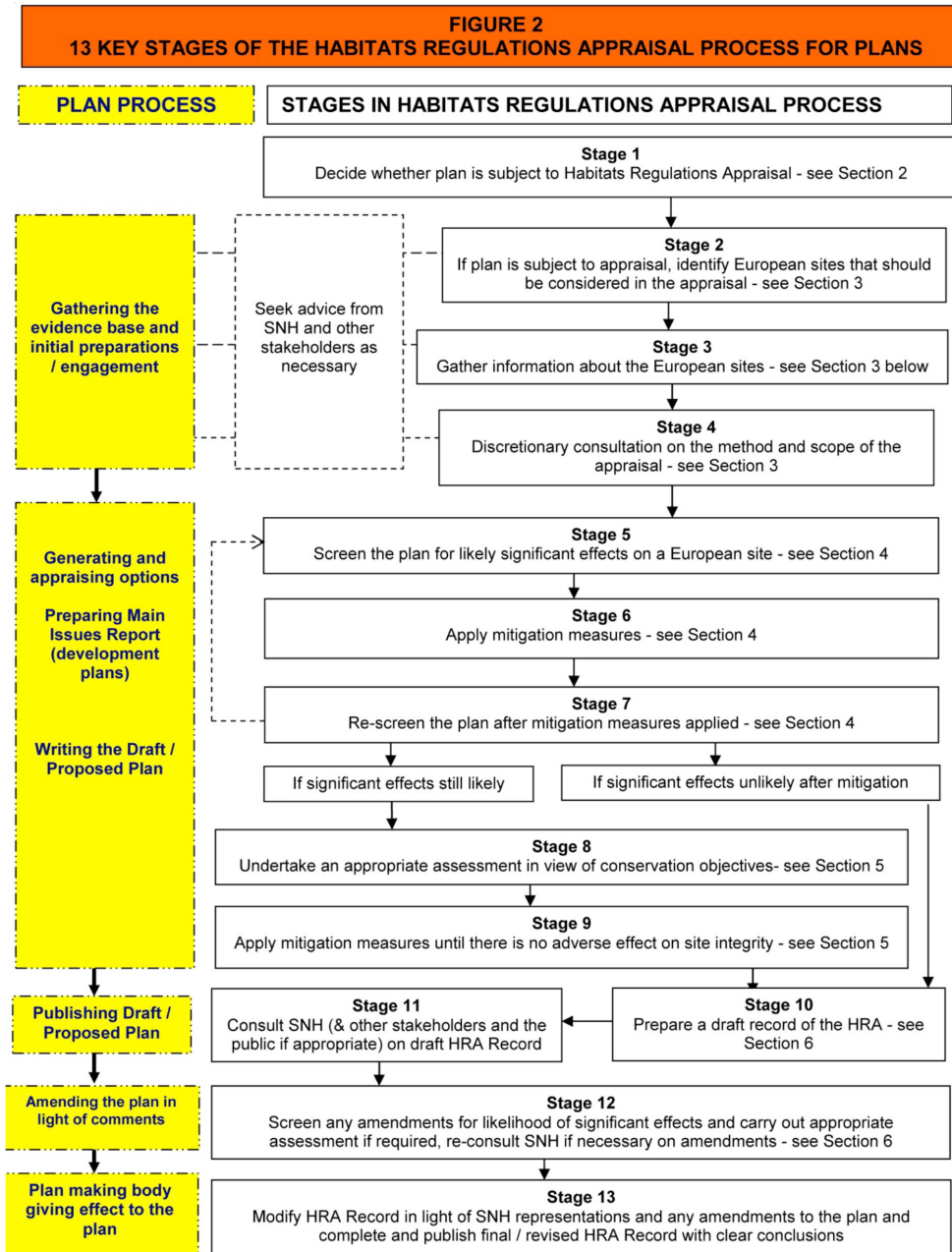
Severn Estuary SAC

Ramsar sites do not have Conservation Objectives in the same way as SPAs and SACs. Information regarding the designation of Ramsar sites is contained in JNCC Ramsar Information Sheets. Ramsar Criteria are the criteria for identifying Wetlands of International Importance. The relevant criteria and ways in which this site meets the criteria are presented in the table below.

Ramsar Criterion	Justification for the application of each Criterion
1	Due to immense tidal range (second-largest in world), this affects both the physical environment and biological communities. Habitats Directive Annex I features present include; H1110 Sandbanks which are slightly covered by sea water all the time H1130 Estuaries; and H1140 Mudflats and sandflats not covered by seawater at low tide H1330 Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>).
3	Due to unusual estuarine communities, reduced diversity and high productivity.
4	This site is important for the run of migratory fish between sea and river via estuary. Species include Salmon <i>Salmo salar</i> , sea trout <i>S. trutta</i> , sea lamprey <i>Petromyzon marinus</i> , river lamprey <i>Lampetra fluviatilis</i> , allis shad <i>Alosa alosa</i> , twaite shad <i>A. fallax</i> , and eel <i>Anguilla anguilla</i> . It is also of particular importance for migratory birds during spring and autumn.
5	Assemblages of international importance: Species with peak counts in winter: 70919 waterfowl (5 year peak mean 1998/99-2002/2003)

Ramsar Criterion	Justification for the application of each Criterion
6	Ramsar criterion 6 – species/populations occurring at levels of international importance. Qualifying Species/populations (as identified at designation) (species with peak counts in winter): <ul style="list-style-type: none"> • Tundra swan, <i>Cygnus columbianus bewickii</i>, NW Europe • Greater white-fronted goose, <i>Anser albifrons albifrons</i>, NW Europe • Common shelduck, <i>Tadorna tadorna</i>, NW Europe • Gadwall, <i>Anas strepera strepera</i>, NW Europe Dunlin, <i>Calidris alpina alpina</i>, W Siberia/W Europe • Common redshank, <i>Tringa totanus totanus</i>
8	The fish of the whole estuarine and river system is one of the most diverse in Britain, with over 110 species recorded. Salmon <i>Salmo salar</i> , sea trout <i>S. trutta</i> , sea lamprey <i>Petromyzon marinus</i> , river lamprey <i>Lampetra fluviatilis</i> , allis shad <i>Alosa alosa</i> , twaite shad <i>A. fallax</i> , and eel <i>Anguilla anguilla</i> use the Severn Estuary as a key migration route to their spawning grounds in the many tributaries that flow into the estuary. The site is important as a feeding and nursery ground for many fish species particularly allis shad <i>Alosa alosa</i> and twaite shad <i>A. fallax</i> which feed on mysid shrimps in the salt wedge.

Appendix B



Appendix C

Policies in the LTP4

South Worcestershire
STRATEGIC RAIL SCHEMES
Worcestershire Parkway (Further Phases)
Hartlebury Rail Station Improvement Scheme
Honeybourne Rail Station Improvement Scheme
Rail Line Redoubling Droitwich to Stoke Works Junction (Network Rail)
Fernhill Heath (Worcester North) Station Scheme - Business Case Development
Rushwick (Worcester West) Station Scheme - Business Case Development
Rail Line Redoubling Worcestershire Parkway to Evesham (Network Rail)
Worcester Rail Triangle' Major Resignalling Scheme (Network Rail)
STRATEGIC ACTIVE TRAVEL CORRIDORS
Worcester to Malvern Wells Active Travel Corridor
Worcester to Droitwich Spa Active Travel Corridor
Worcester - Kempsey Active Travel Corridor
Worcester - Hallow Active Travel Corridor
Vale West Active Travel Corridor (Pershore-Wyre Piddle-Fladbury-Charlton/Crothorne-Evesham)
Vale East Active Travel Network Development and Improvements (Evesham-Badsey-Offenham-Littletons-Harvington-Wickhamford-Childswickham-Broadway)
Malvern to Upton Active Travel Corridor Phase 1 (Malvern to Three Counties Showground)

Malvern to Upton Active Travel Corridor Phase 2 (Three Counties Showground to Uptonupon-Severn)
Malvern to Leigh Sinton Active Travel Corridor
Leapgate Line Active Travel Corridor (Stourport-on-Severn to Hartlebury Rail Station)
STRATEGIC ROAD SCHEMES
M5 Junction 6 - Major Capacity Enhancement Scheme
Southern Link Road Dualling (Phase 4, Ketch to Powick Hams)
South Worcestershire Transport Telematics Investment Package (including VMS, RTIS, Signalling Improvements and Traffic Counters)
Black Bridges, Torton (A449 / A450 / A442) Junctions Review
Bluebell Farm (A4103 / A38) Junction Enhancement Scheme
Martin Hussingtree - A38 Droitwich Road / A4538 Pershore Lane Junction Enhancement Scheme
Spetchley - (A44 / A422 / A4538) Junction Enhancement Scheme
The Rhydd (B4211 Guarlford Road / B4211 Upton Road / B4424 Powick Road) Junction Enhancement Scheme
Fernhill Heath - A38 Droitwich Road / A4536 Hurst Lane Junction Enhancement Scheme
Holt Heath Junctions Review (A443 / A4133)
Leigh Sinton - A4103 / B4503 Malvern Road Junction Review
Ankerdine Hill - (A44/B4197) Junction Review
Welland - B4208 Gloucester Road/ B4208 Blackmore Park Road / Upper Hook Road Junction Review
PERSHORE TRANSPORT STRATEGY
Pershore - A44 Allens Hill / A4104 Terrace Road / B4082 Main Street
Pershore - Rail Station Improvement Scheme
Pershore High Street (Church Street to Priest Lane) Public Realm Scheme
Pershore to Pinvin Active Travel Corridor
Pershore - Parking Strategy (To include parking for cars, motorcycles and covered parking for bicycles)

Pershore - A4104 Worcester Road / B4084 Three Springs Road
Pershore - A4104 Worcester Road / B4084 Station Road/High Street
Pershore - A4104 Station Road / B4083 Wyre Road
Pershore Northern Access Improvement Major Scheme (including Pinvin Junction - A44/ A4184 / B4088 Evesham Road and New Northern Link Road)
EVESHAM TRANSPORT STRATEGY
Evesham - A46 Corridor Major Scheme (Highways England)
Evesham - Rail Station Improvement Scheme
Evesham - Highway Network Review and Public Realm Enhancements
Evesham - Port Street Key Corridor of Improvement (including AQMA Remediation, public realm and Waterside junction improvements)
Evesham - A4184 High Street / A4184 Greenhill / B4624 Worcester Road
Evesham - Parking Strategy (To include parking for cars, motorcycles and covered parking for bicycles)
Evesham - Abbey Bridge Junction - Abbey Road / Pershore Road / Waterside / Cheltenham Road
Evesham - Strategic Active Travel Network Investment Programme
Evesham - Vine Street / High Street / Bridge Street
Evesham - A4184 (Cheltenham Road) / Davies Road
DROITWICH TRANSPORT STRATEGY
Droitwich Spa - Hanbury Street / Queen Street / Saltway / Bromsgrove Road (St
George's Square)
Droitwich Spa - A38 Roman Way / B4065 Bromsgrove Road Junction
Droitwich Spa - Westlands - A38 Roman Way / A442 Kidderminster Road Junction
Droitwich Spa - A38 Roman Way / B4090 Worcester Road
Droitwich Spa - Strategic Active Travel Network Investment Programme

Droitwich Spa - High Street Public Realm Scheme
Droitwich Spa - Rail Station Improvement Scheme
Droitwich Spa - Parking Strategy (To include parking for cars, motorcycles and covered parking for bicycles)
Major Regeneration and Improvement Scheme (Including major new undercover cycle store)
Worcester Foregate Street Station Scheme (Including major new undercover cycle store)
Worcester Rainbow Hill/Astwood Road/Bilford Road/Blackpole Road Key Corridor of Improvement
Worcester - A449 Bromwich Road / A449 Malvern Road / Malvern Road / Canada Way Junction Improvement Scheme
Worcester East-West Axis Corridor Signals Upgrade (St Johns to Sidbury, including St Johns AQMA Remediation)
Worcester North East- North West Active Travel Corridor (Lower Broadheath to Worcester Six, via Gheluvelt Park)
Worcester River Severn Active Travel Corridor (Sabrina Bridge to Kepax)
Worcester City Centre Transport Strategy Major Scheme (include parking, access management etc)
Worcester - Canal Towpath Active Travel Corridor Improvement Scheme (Diglis to Tibberton)
Worcester Wildwood - A44 / A4440 Nunnery Way / A4440 Swinesherd Way / Wildwood Drive Junction
Worcester - A449 North of Worcester (Ombersley Road) Junction
Worcester - A4440 Grange Way / B4636 Newtown Road Junction
Worcester - A4536 Blackpole Road / Cotswold Way Junction
Worcester - Crown East Junction (A44 / A4440 / A4103)
Worcester - Red Hill - A44 London Road / A44 Whittington Road / Spetchley Road
MALVERN TRANSPORT STRATEGY
Great Malvern Town Centre Regeneration Scheme
Malvern - Parking Strategy (To include parking for cars, motorcycles and covered parking for bicycles)

Malvern Link (A449) Key Corridor of Improvement (Including Public Realm and Junction Enhancement at: Worcester Road / Howsell Road / Pickersleigh Road, Worcester Road / Newtown Road / Hornyold Road, Worcester Road / Pickersleigh Avenue / Richmond Road)
Malvern Link - Station Car Park Expansion Scheme
Malvern Newlands - A449 Worcester Road / Townsend Way
Malvern - B4208 Barnards Green Road / Pound Bank Road Junction Review
Malvern - B4208 Pickersleigh Road / North End Lane / Hayslan Road
Malvern - B4211 Barnards Green Rd / B4208 Pickersleigh Rd / Upper Chase Rd / Court Rd / Avenue Rd
Malvern - A449 Belle Vue Terrace / Wells Road / B4211 Church Street
Malvern - B4208 Barnards Green Rd / B4211 Poolbrook Road
Malvern (Three Counties Showground) - B4208 Blackmore Park Rd / B4209 Hanley Road
Malvern - Cowleigh Bank/Old Hollow Junction with B4208
Malvern - A449 Wells Road / Upper Welland Road Junction Review
Tenbury Wells (Teme Street) Public Realm Enhancement Scheme
Broadway - Implement On-Street Parking Charges (Experimental Scheme)
North East Worcestershire
BROMSGROVE TRANSPORT STRATEGY
Lydiate Ash (M5 Junction 4)
Lickey End (M42 Junction 1) Major Enhancement Scheme and Lickey End AQMA Remediation
Bromsgrove Eastern Bypass Key Corridor of Improvement Major Scheme (A38)
Bromsgrove - Broad Street/Stourbridge Road Junction Review
Bromsgrove - Parking Strategy (To include parking for cars, motorcycles and covered parking for bicycles)
Bromsgrove- Strategic Active Travel Network Investment Programme (Including Catshill, Marlbrook and Lickey End)
Bromsgrove - Parkfield - Strand / Market Street / Stourbridge Road / Birmingham Road Junction Improvement
Bromsgrove Station - Car Park Extension Scheme

Bromsgrove - St John Street / Hanover Street / Kidderminster Road
Bromsgrove - Worcester Road/Rock Hill Key Corridor of Improvement (including Worcester Road AQMA Remediation)
Bromsgrove - Town Centre Public Realm Enhancement Phase 2
Bromsgrove - Strategic Town Centre Highway Network Strategy (including AQMA remediation at Worcester Road)
REDDITCH TRANSPORT STRATEGY
Redditch - Ran Tan Major Junction Capacity Enhancement Scheme
Redditch - Battens Drive/Warwick Highway Junction Enhancement Scheme
Redditch - Parking Strategy (To include parking for cars, motorcycles and covered parking for bicycles)
Redditch - Strategic Active Travel Network Investment Programme
Redditch - Plymouth Road/Bromsgrove Road Junction Enhancement Scheme
Redditch - B4184 Windsor Road / Birmingham Road Junction Enhancement Scheme
Redditch - Station Enhancement Scheme
Redditch - Town Centre Major Regeneration Initiative
Redditch - A441 Birmingham Road / B4101 Dagnell End Road
Redditch - Alexandra Hospital Bus Interchange
STRATEGIC SCHEMES
North East Worcestershire Transport Telematics Investment Package (including VMS, RTIS, Signalling Improvements and Traffic Counters)
Old Birmingham Road/Linehouse Lane/Braces Lane Junction Review (Marlbrook)
Rubery - Public Realm Improvement Scheme
Hagley Junctions Review
Hagley Rail Station Enhancement Scheme
Alvechurch Rail Station Enhancement Scheme
Wythall Rail Station Enhancement Scheme

Wyre Forest
KIDDERMINSTER TRANSPORT STRATEGY
Kidderminster - Bewdley Hill (A456) Key Corridor of Improvement (including major junctions review)
Kidderminster - Rail Station Major Enhancement Scheme
Kidderminster - Town Centre Major Regeneration Initiative (ReWyre)
Kidderminster - Chester Road (A449) Key Corridor of Improvement (Including major junctions review)
Kidderminster - Ring Road Public Realm Improvement Scheme (including AQMA Remediation)
Kidderminster - Parking Strategy (To include parking for cars, motorcycles and covered parking for bicycles)
Kidderminster - A456 Birmingham Road / Hurcott Lane Junction Review
Kidderminster - Sion Hill / A449 Stourbridge Road Junction Review
Kidderminster - Stourport Road Key Corridor of Improvement
Kidderminster - A451 Stourbridge Road / B4189 Park Gate Road Junction Enhancement Scheme
Kidderminster - A449 Wolverhampton Road / B4189 Wolverley Road / B4189 Park Gate Road Junction Enhancement Scheme
Kidderminster - B4190 Key Corridor of Improvement (Haberley to Wolverley, including junction with A442)
STOURPORT TRANSPORT STRATEGY
Stourport - Parking Strategy (To include parking for cars, motorcycles and covered parking for bicycles)
Stourport Town Centre Highway Network Review and Public Realm Enhancements
BEWDLEY TRANSPORT STRATEGY
Bewdley Access Enhancement, Parking (Cars, Motorcycles and Bicycles), Public Realm and Air Quality Remediation Scheme
Bewdley to Wyre Forest Active Travel Corridor (The 'Dowles Link' via former rail alignment)

STRATEGIC SCHEMES

Wyre Forest Towns - Transport Telematics Investment Package
(including VMS, RTIS, Signalling Improvements and Traffic
Counters)

Wyre Forest Towns - Strategic Active Travel Network Investment
(including Canals and Waterways)

A448 Demand Reallocation Scheme (Including Mustow Green)

Blakedown Rail Station Enhancement Scheme



LEPUS CONSULTING

LANDSCAPE ECOLOGY, PLANNING AND URBAN SUSTAINABILITY



worcestershire
county council

The public consultation will finish on 17th March and the responses will be published in May 2017 on the website: www.worcestershire.gov.uk/LTP

Worcestershire County Council

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Worcestershire
Local Enterprise Partnership



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