



# HABITATS REGULATIONS ASSESSMENT (APPROPRIATE ASSESSMENT) REPORT



## South Worcestershire Development Plan Pre-Submission Consultation



November 2012

enfusion



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**Prepared for:** Malvern Hills District Council, Worcester City Council and  
Wychavon District Council

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## EXECUTIVE SUMMARY

- 0.1 Habitats Regulations Assessment (HRA) of spatial development plans is a requirement of the Habitats Directive (92/43/EEC) as set out in the Conservation of Habitats and Species Regulations (Amendment) 2011. This report details the Habitats Regulations Assessment for the South Worcestershire Development Plan (SWDP) (Preferred Options). It sets out the method, findings and conclusions of the Screening and Appropriate Assessment (AA) stages of the HRA process.
- 0.2 The first stage of the HRA process (screening) considered the likely significant effects at the following European sites within the influence the plan:
- Bredon Hill Special Area of Conservation (SAC)
  - Dixon Woods SAC
  - Downton Gorge SAC
  - Lyppard Grange SAC
  - River Wye SAC
  - Severn Estuary SAC/ Special Protection Area (SPA)/ Ramsar
  - Walmore Common SPA/ Ramsar
- 0.3 The screening concluded that there is uncertainty with regard to the potential for significant effects at European sites (Bredon Hill SAC and Lyppard Grange SAC) through increased disturbance. The screening also concluded that there is uncertainty with regard to the potential for significant in combination effects on seven European sites (Lyppard Grange SAC, River Wye SAC, Severn Estuary SAC/SPA/Ramsar & Walmore Common SPA/Ramsar) as a result of changes water levels and five European sites (Severn Estuary SAC/SPA/Ramsar & Walmore Common SPA/Ramsar) as a result of changes to water quality. Based on the precautionary approach these issues were progressed through to the AA stage to be considered in more detail.
- 0.4 The AA considered the potential for the SWDP to have adverse effects on the integrity of identified European sites through increased disturbance (recreational activity) and reduced water levels and quality. The AA assessed that the likelihood of proposed development increasing the number of people using Lyppard Grange Ponds SAC is minimal - especially given the much larger areas of open space available for recreation within approximately 300 meters of the site. It therefore concluded that the SWDP will not have adverse effects on the integrity of the Lyppard Grange Ponds SAC through increased disturbance. Considering the location and size of proposed development in relation to Bredon Hill SAC and that recreational activity is not an issue at the site, the AA concluded that the SWDP will not have adverse effects on the integrity of the SAC either alone or in combination through increased disturbance.

- 0.5 The AA assessed that the mitigation provided by Pre-Submission policies and current regulatory processes (EA Review of Consents) would ensure that the potential impacts of proposed development on the water environment would be minimised. It was concluded that the SWDP will not have adverse in combination effects on the integrity of the identified European sites through reduced water levels or water quality.
- 0.6 These findings will subject to further consultation comments and advice from NE and wider stakeholders.

## 1.0 INTRODUCTION

- 1.1 South Worcestershire is the area covered by the districts of Malvern Hills, Wychavon and the City of Worcester. The area is not a formal sub region or an administrative area but the three Councils - Malvern Hills District Council, Worcester City Council and Wychavon District Council - have chosen to work jointly in the preparation of the South Worcestershire Development Plan (SWDP) given the strong functional, economic, infrastructure, policy and cross boundary relationships between the local authorities.
- 1.2 In May 2007, Enfusion Ltd was commissioned to carry out Habitats Regulations Assessment (HRA) of the SWDP on behalf of the Councils in their role as the competent authority. At the same time Enfusion was also commissioned to undertake Sustainability Appraisal (incorporating Strategic Environmental Assessment [SEA]) of the SWDP and this work has been undertaken concurrently, with the two processes informing each other as appropriate.

### Background

- 1.3 The HRA process for the plan began in 2008, when HRA Screening was undertaken for the South Worcestershire Joint Core Strategy (SWJCS) Preferred Options. The findings of this screening process were reported in the Habitats Regulations Assessment Screening Report (August 2008)<sup>1</sup>. The Report concluded that the plan will not have significant effects on European sites but that this should be reviewed iteratively as the plan develops in the context of any significant changes. The Screening Report was subject to consultation advice from Natural England (NE) who indicated that the scope and the overall conclusions of the HRA Screening Report were appropriate.
- 1.4 Following the election of the new Government and consultation on the SWJCS in 2008, the Councils decided to bring together the South Worcestershire Joint Core Strategy (SWJCS) and the Site Allocations and Policies Development Plan Documents, in order to deliver appropriate growth earlier and to secure financial savings. The South Worcestershire Development Plan (SWDP) Preferred Options document (September 2011) proposed a strategy which has greater emphasis on economic development, reflecting the key objectives in the draft National Planning Policy Framework (NPPF), and the plan also placed greater emphasis on rural development. In the light of the changes the HRA screening stage was revisited for the Plan.
- 1.5 The updated screening assessment found that there was uncertainty with regard to the potential for significant effects on European sites as a result of development proposed in the plan. Based on the precautionary approach it concluded that the plan would need to be

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<sup>1</sup> Available online at the South Worcestershire Development Plan, publications library  
<http://www.swdevelopmentplan.org/>

considered in more detail through the next stage of the HRA process, Appropriate Assessment (AA). The AA considered the potential for the SWDP (both alone and in combination) to have adverse effects on the integrity of identified European sites through increased disturbance; reduced air quality; and reduced water levels and quality. Given a lack of available evidence the AA was unable to conclude with certainty that the SWDP (both alone and in combination) would not have adverse effects on the integrity of the identified European. The AA therefore proposed a number of mitigation measures to address the identified issues and concluded that these along with the mitigation provided by plan policies would be sufficient to ensure that there would be no adverse effects on the integrity of European sites. The findings and conclusions of the updated screening assessment and AA were reported in the HRA (AA) Report (September 2011)<sup>2</sup>.

- 1.6 The HRA (AA) Report was subject to consultation advice from NE who stated that many of the uncertainties identified through the AA could be resolved and that the plan needs to include more specific and robust mitigation for any remaining adverse effects on integrity. NE recommended that further connections are made between the effects of the policy, potential environmental pathways and the sensitivities of the European sites. A table summarising the consultation comments and how they will be addressed is provided in **Appendix V**.
- 1.7 To further discuss NE's response to the HRA (AA) Report (Sept 2011) and a meeting was held at Worcestershire County Council County Hall between the Councils, NE and Enfusion on 15<sup>th</sup> December 2011. The outcome of the meeting was an agreed approach to future work on the HRA, in particular, for a focus on the environmental pathways of impacts arising as a result of the SWDP.
- 1.8 In response to representations received on the SWDP Preferred Options Document (September 2011) a number of changes were made to the Plan. The Targeted Consultation was carried out from August to September 2012 and set out the significant changes to the SWDP since the Preferred Options. A revised HRA Report (July 2012) was produced to take account of these changes and was provided to the Councils to help them inform the development of the Pre-Submission Document.

### **Purpose and Structure of Report**

- 1.9 This report takes forward and updates the findings of the previous HRA (AA) Reports (September 2011 and July 2012). It considers SWDP Pre-Submission Policies that incorporate changes since the publication of the Preferred Options and also takes account of NE comments.
- 1.10 Following this introductory section the report is organised into four further sections:

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<sup>2</sup> Ibid.

- **Section 2** summarises the requirement for HRA and the background to the South Worcestershire Development Plan
- **Section 3** outlines the Screening process and the findings of the screening assessment.
- **Section 4** outlines the AA process and the findings of the assessment, including avoidance and mitigation measures where necessary.
- **Section 5** summarises the findings of the HRA and sets out the next steps, including consultation arrangements.

## 2.0 HABITATS REGULATIONS ASSESSMENT (HRA) & THE PLAN

### Requirement for Habitats Regulations Assessment

- 2.1 The Conservation of Habitats and Species Regulations (as amended) 2010 [the Habitats Regulations] require that HRA is applied to all statutory land use plans in England and Wales. The aim of the HRA process is to assess the potential effects arising from a plan against the conservation objectives of any site designated for its nature conservation importance.
- 2.2 The Habitats Regulations transpose the requirements of the European Directive (92/43/EEC) on the Conservation of Natural Habitats and Wild Flora and Fauna [the Habitats Directive] which aims to protect habitats and species of European nature conservation importance. The Directive establishes a network of internationally important sites designated for their ecological status. These are referred to as Natura 2000 sites or European Sites, and comprise Special Areas of Conservation (SACs) and Special Protection Areas (SPAs) which are designated under European Directive (2009/147/EC) on the conservation of wild birds [the Birds Directive]. In addition, Government guidance also requires that Ramsar sites (which support internationally important wetland habitats and are listed under the Convention on Wetlands of International Importance [Ramsar Convention]) are included within the HRA process as required by the Regulations.
- 2.2 The process of HRA is based on the precautionary principle and evidence should be presented to allow a determination of whether the impacts of a land-use plan, when considered in combination with the effects of other plans and projects against the conservation objectives of a European Site; would adversely affect the integrity of that site. Where effects are considered uncertain, the potential for adverse impacts should be assumed.

### Guidance and Good Practice

- 2.3 The application of HRA to Local Development Documents is an emerging field and has been informed by a number of key guidance and practice documents. Draft guidance for HRA 'Planning for the Protection of European Sites: Appropriate Assessment', was published by the Government (DCLG, 2006) and is based on the European Commission's (2001) guidance for the Appropriate Assessment of Plans. The DCLG guidance recommends three main stages to the HRA process:
- **Stage 1:** Screening for Likely Significant Effect
  - **Stage 2:** Appropriate Assessment, Ascertaining Effects on Integrity
  - **Stage 3:** Mitigations Measures and Alternatives Assessment.

- 2.4 If alternative solutions or avoidance/ mitigation measures to remove adverse effects on site integrity cannot be delivered then current guidance recommends an additional stage to consider Imperative Reasons of Overriding Public Interest (IROPI) for why the plan should proceed. For the HRA of land use plans IROPI is only likely to be justified in a very limited set of circumstances and must be accompanied by agreed, deliverable compensation measures for the habitats and species affected. For this reason the IROPI stage is not detailed further in this report.
- 2.5 More recently Natural England has produced additional, detailed guidance on the HRA of Local Development Documents (Tyldesley, 2009) that complements the DCLG guidance, and builds on assessment experience and relevant court rulings. The guidance: sets out criteria to assist with the screening process; addresses the management of uncertainty in the assessment process; and importantly outlines that for the HRA of plans; ' ... what is expected is as rigorous an assessment as can reasonably be undertaken in accordance with the requirements of the Regulations ... '.
- 2.6 The approach taken for the HRA of the SWDP follows the method set out in formal guidance documents and has additionally been informed by recent good practice examples. The key stages of the HRA process overall, and the specific tasks undertaken for each stage are set out in **Table 1**.

Table 2.1: Habitats Regulations Assessment: Key Stages	
Stages	Habitats Regulations Assessment
<b>Stage 1: Screening for Likely significant Effects</b>	1. Identify European sites in and around the plan area.
	2. Examine the conservation objectives of each interest feature of the European site(s) potentially affected.
	3. Analyse the policy/ plan and the changes to environmental conditions that may occur as a result of the plan. Consider the extent of the effects on European sites (magnitude, duration, location) based on best available information.
	4. Examine other plans and programmes that could contribute (cumulatively) to identified impacts/ effects.
	5. Produce screening assessment based on evidence gathered and consult statutory nature conservation body on findings.
	6. If effects are judged likely or uncertainty exists – the precautionary principle applies proceed to <b>Stage 2</b> .
<b>Stage 2: Appropriate Assessment</b>	1. Agree scope and method of Appropriate Assessment with statutory nature conservation body.
	2. Collate all relevant information and evaluate potential impacts on site(s) in light of conservation objectives.
<b>Stage 3: Mitigation Measures and Alternatives Assessment</b>	1. Consider how effect on integrity of site(s) could be avoided by changes to plan and the consideration of alternatives (e.g. an alternative policy/ spatial location). Develop mitigation measures (including timescale and mechanisms for delivery).
	2. Prepare HRA/ AA report and consult statutory body.
	3. Finalise HRA/AA report in line with statutory advice to accompany plan for wider consultation.

## South Worcestershire Development Plan (SWDP) - Key Proposals

- 2.7 The SWDP will form the basis for spatial planning for the Malvern Hills and Wychavon Districts, and the Worcester City area up until 2030. The plan sets out a vision for what South Worcestershire will be like in 2030, and a Development Strategy and planning policies that include the allocation for land for employment, housing and other land uses to guide infrastructure provision.
- 2.8 The emphasis of the SWDP is on jobs and economic prosperity. The plan proposes 280 hectares of employment land of which 120 will be within or immediately adjacent to Worcester City. The remaining allocations will be for 40 hectares for Malvern Hills District and 120 hectares for Wychavon. Smaller allocations will also support the role of the market towns and villages, and specific policies address the needs of the rural economy to support agriculture and assist in farm diversification and tourism.
- 2.9 The SWDP proposes to build approximately 23,200 homes, with allocations of 9,400 for Worcester City; 8,900 for Wychavon and 4,900 for Malvern Hills. The focus of development will be on sites at Worcester and the main towns.
- 2.10 The key changes made to the Plan since the Preferred Options document (Sept 2011) include an increase in new homes (from 20,360 to 23,200), although these will mostly be met through bringing back empty homes into use and windfall sites. Other key changes include a number of new policies, which are designed to protect the natural and historic environment, and changes to the allocations for housing and other uses throughout the South Worcestershire area.

## Overview of Plan Area<sup>3</sup>

- 2.11 South Worcestershire covers approximately 1,300 square kilometers of the County and forms the southern limit of the West Midlands. The area is comprised of the largely rural districts of Malvern and Wychavon, with the City of Worcester forming the largest urban area. Three main towns, Droitwich Spa, Evesham and Malvern and the smaller towns of Pershore, Tenbury Wells and Upton-upon-Severn form the other main centres of population. In addition there are 200 villages. The total population of the area is estimated at 286,400 (2009, Mid-Term Estimates).
- 2.12 South Worcestershire is characterised by a high quality natural environment that includes the upland areas of the Cotswolds (including Bredon Hill) and the Malvern Hills Areas of Outstanding Natural Beauty (AONB) and the river valleys of the Avon, Severn and Teme. The area's biodiversity interest is reflected by a significant number of national designations (Sites of Special Scientific Interest, SSSIs) and two European Special Areas of Conservation (SAC) sites. Local

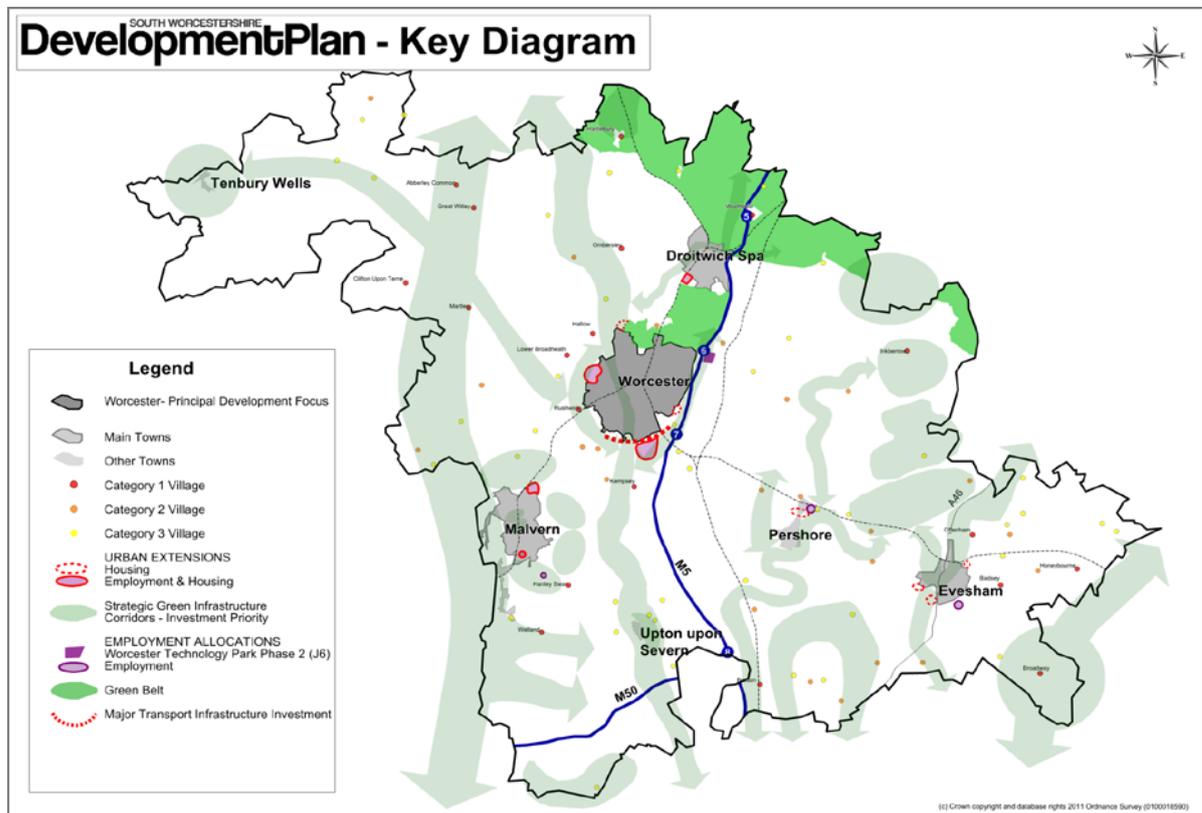
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<sup>3</sup> SWDP Preferred Options (June 2011, p13-14)

wildlife (including Biodiversity Action Plan habitats and species) are also an important element of the overall environmental richness of the area, which attracts a significant number of tourists and visitors accounting for approximately 11% of local expenditure.

- 2.13 South Worcestershire is easily accessible by road and rail, however, there are identified capacity issues in the current transport network and reliance on private car travel, particularly in rural areas, is a key sustainability issue for the area. Of the 127,000 employee jobs in the area, 65% are at Worcester and the main towns, therefore commuting both within and outwith the area is a requirement.
- 2.14 Figure 1 illustrates the main features of the Plan area including transport and infrastructure links.

Figure 2.1: SWDP Key Diagram



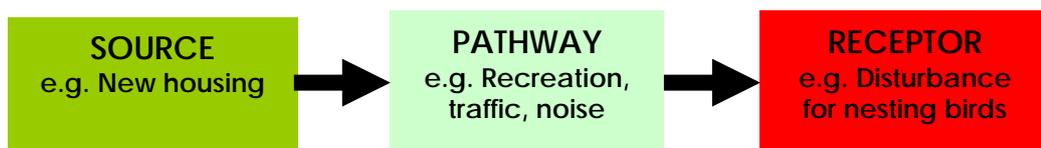
### 3.0 HRA STAGE 1: SCREENING

- 3.1 As detailed in Section 2, Table 1, HRA typically involves a number of stages. This section of the report sets out our approach and findings for Stage 1, HRA Screening for the SWDP Pre-Submission. The aim of the screening stage is to assess in broad terms whether the policies and proposals set out in the plan are likely to have a significant effect on a European site(s), and whether in the light of available avoidance and mitigation measures, an Appropriate Assessment (AA) is necessary.
- 3.2 It was noted in Section 1 (paras 1.3 - 1.6) that HRA Screening of proposed spatial planning policies for South Worcestershire was first undertaken in 2008 for the [then] South Worcestershire Joint Core Strategy (SWJCS). Natural England's response to the Screening Report produced for the SWJCS indicated that the scope and the overall conclusions of the HRA were appropriate (see **Appendix V**). However, in the light of the changes made to the Plan and comments received from NE; all the screening tasks (**Table 1**) have been revisited for the Plan. The completed tasks are described in detail below.

#### Scope of HRA

- 3.3 Plans such as the SWDP can have spatial implications that extend beyond the intended plan boundaries. In particular, it is recognised that when considering the potential for effects on European sites, distance in itself is not a definitive guide to the likelihood or severity of an impact. Other factors such as inaccessibility/ remoteness, the prevailing wind direction, river flow direction, and ground water flow direction will all have a bearing on the relative distance at which an impact can occur. This means that a plan directing development some distance away from a European Site could still have effects on the site and therefore, needs to be considered as part of the HRA screening.
- 3.4 Therefore, rather than rely on distance alone, a more effective mechanism for considering the scope of the HRA is to use a 'source-pathway-receptor' model (see Figure 2) which focuses on whether there is a pathway by which impacts from the plan can affect the identified sensitivities/ vulnerabilities of European site(s)' environmental conditions.

Figure 3.1: Source, Pathway, Receptor Model



- 3.5 Using this approach the following sites that lie both within and outside the plan, were scoped into the HRA Screening for the SWDP.

Table 3.1: European Sites within HRA Scope	
European Site	Designation
<b>European Sites within Plan Area</b>	
Bredon Hill	SAC
Lyppard Grange	SAC
<b>European Sites outside Plan Area</b>	
Dixton Woods	SAC
Downton Gorge	SAC
River Wye	SAC
Severn Estuary	SAC/ SPA/ Ramsar
Walmore Common	SPA/ Ramsar

### Identification & Characterisation of European Sites

- 3.6 Summary site characterisations of the seven sites scoped into the assessment are provided below in **Figure 3**. More detailed descriptions including conservation objectives and the specific vulnerabilities for each site are provided in **Appendix I**.

**Figure 3.2: European Site Characterisations**

**Bredon Hill SAC** is an area of pasture woodland and ancient parkland situated approximately 4.5km to the South West of Evesham. The site provides habitat for the Violet Click Beetle *Limoniscus violaceus* beetle, which develops in the decaying wood either of very large, old hollow beech trees (Windsor Forest) or ash trees (Worcestershire/ Gloucestershire border sites). Currently the key site attributes which Natural England understands the species to require is related to the abundance and condition of the ancient trees on the designated site within which it develops.

**Lyppard Grange SAC** is located on the East outskirts of Worcester and is situated amongst a recent housing development on former pastoral farmland. The site is composed of two ponds in an area of grassland and scrub (public open space). The site provides habitat for Great Crested Newts *Triturus cristatus*, which are dependent on both the existing terrestrial habitat (to provide foraging areas and refuge) and on the pond, aquatic habitat (for breeding).

**Dixton Wood SAC** is situated approximately 6.7km to the South East of Tewkesbury and is an area of broadleaved woodland (formerly partially grazed) with a dominance of ash including exceptionally large ancient pollards. The site is designated for its population of Violet Click Beetle *Limoniscus violaceus*, which is largely dependent on these pollards (for breeding). Principal risks to the site's integrity are lack of future replacement pollards (age-class skewed to older generation) and game management practices.

### Figure 3.2: European Site Characterisations

**Downton Gorge SAC** is an example of *Tilio-Acerion* forests in a narrow ravine with a distinctive microclimate and a variety of slopes and aspects. Both small leaved lime *Tilia cordata* and large-leaved lime *T. platyphyllos* occur, together with ash *Fraxinus excelsior* and elm *Ulmus spp.* The ground flora includes wood fescue *Festuca altissima* and violet helleborine *Epipactis purpurata*. The gorge cliffs are rich in ferns, reflecting the humidity of the site, with a wide range of species recorded. The site is potentially vulnerable to the effects of air- and water-borne pollution, particularly in respect of its significant lichenological interest. However these effects are not related to the management of the site.

**The River Wye SAC**, on the border of England and Wales, is a large river of plain to montane levels. It has a geologically mixed catchment, including shales and sandstones, and there is a clear transition between the upland reaches, with characteristic bryophyte-dominated vegetation, and the lower reaches, with extensive *Ranunculus* beds. There is an exceptional range of aquatic flora in the catchment including river jelly-lichen *Collema dichotum*. The river channel is largely unmodified and includes some excellent gorges, as well as significant areas of associated woodland. The site is also designated for its populations of Lamprey, White-clawed crayfish, Twaite Shad, Atlantic Salmon, Bullhead and Otter.

**Severn Estuary SPA/Ramsar/SAC** is the largest coastal plain estuary in the UK with extensive mudflats and sandflats, rocky shore platforms, shingle and islands. Saltmarsh fringes the coast, backed by grazing marsh with freshwater and occasional brackish ditches. The estuary's classic funnel shape, unique in the UK, is a factor causing the Severn to have the second highest tidal range in the world (after the Bay of Fundy in Canada) at more than 12 meters. This tidal regime results in plant and animal communities typical of the extreme physical conditions of strong flows, mobile sediments, changing salinity, high turbidity and heavy scouring. The resultant low diversity invertebrate communities, that frequently include populations of ragworms, lugworms and other invertebrates in high densities, form an important food source for passage and wintering birds. The site is important in the spring and autumn migration periods for waders moving along the west coast of Europe, as well as in winter for large numbers of waterbirds including swans, geese, ducks and waders. These bird populations are regarded as internationally important.

**Walmore Common SPA/Ramsar** is located in Gloucestershire, in the west of England, about 10 km south-west of Gloucester. The site is a wetland overlying peat providing a variety of habitats including improved neutral grassland, unimproved marshy grassland and open water ditches. The area is subject to regular winter flooding and this creates suitable conditions for regular wintering by an important number of Bewick's Swan *Cygnus columbianus bewickii*. The highest bird numbers are seen during the harshest winters, when Walmore Common provides an essential feeding and roosting area.

## Effects of the Plan

- 3.7 The emphasis of the SWDP is on jobs and economic prosperity and a key element of the plan is the delivery across the plan area of 23,200 new homes over the life of the plan (to 2030). Housing, employment and infrastructure development has the potential to generate a range of environmental impacts which can, (depending on their nature, magnitude, location and duration), have effects on European sites. A summary of the types of impacts and effects that can arise from these types of development is provided in **Table 4**.

Table 3.2: Housing, Employment and Infrastructure Development: Summary of Impacts and Effects on European Sites	
Effects on European Sites	Impact Types
Habitat (& species) fragmentation and loss	<ul style="list-style-type: none"> <li>■ Direct land take, removal of green/ connecting corridors/ supporting habitat, changes to sediment patterns (rivers and coastal locations)</li> <li>■ Introduction of invasive species (predation)</li> </ul>
Disturbance	<ul style="list-style-type: none"> <li>■ Increased recreational activity (population increase)</li> <li>■ Noise and light pollution (from development and increased traffic)</li> </ul>
Changes to hydrological regime/ water levels	<ul style="list-style-type: none"> <li>■ Increased abstraction levels (new housing)</li> <li>■ Increased hard standing non-permeable surfaces/ accelerated run-off</li> <li>■ Laying pipes/ cables (surface &amp; ground)</li> <li>■ Topography alteration</li> </ul>
Changes to water quality	<ul style="list-style-type: none"> <li>■ Increase in run-off/ pollutants from non-permeable surfaces (roads, built areas)</li> <li>■ Increased air pollution (eutrophication) (traffic, housing)</li> <li>■ Increased volume of discharges (consented)</li> </ul>
Changes in air quality	<ul style="list-style-type: none"> <li>■ Increased traffic movements</li> <li>■ Increased emissions from buildings</li> </ul>

## SWDP Screening

- 3.8 The first stage in the screening process considered the potential impacts arising as a result of the policies and whether these have the potential to lead to likely significant effects (LSE). The screening identified four SWDP policies for which the impacts could potentially lead to significant effects (Appendix III). The policies and their potential impacts are provided in Figure 5.

**Table 3.3: SWDP Policies identified as having impacts that could lead to LSE**

<p><b>SWDP 2:</b> Development Strategy and Settlement Hierarchy</p>	<p>Policy has the potential to result in:</p> <ul style="list-style-type: none"> <li>• atmospheric pollution through increased traffic, which could reduce air quality;</li> <li>• increased levels of disturbance - recreational activity, noise and light pollution;</li> <li>• increased levels of abstraction; surface water run-off and sewerage discharge, which could reduce water quality and levels; and</li> <li>• land take, which could lead to the loss and fragmentation of habitats.</li> </ul>
<p><b>SWDP 3:</b> Employment, Housing, Retail Supply</p>	<p>Policy has the potential to result in:</p> <ul style="list-style-type: none"> <li>• atmospheric pollution through increased traffic, which could reduce air quality;</li> <li>• increased levels of disturbance - recreational activity, noise and light pollution;</li> <li>• increased levels of abstraction; surface water run-off and sewerage discharge, which could reduce water quality and levels; and</li> <li>• land take, which could lead to the loss and fragmentation of habitats.</li> </ul>
<p><b>SWDP 7:</b> Infrastructure</p>	<p>Policy has the potential to result in:</p> <ul style="list-style-type: none"> <li>• atmospheric pollution through increased traffic, which could reduce air quality;</li> <li>• increased levels of disturbance, during construction;</li> <li>• land take, which could lead to the loss and fragmentation of habitats.</li> </ul>
<p><b>SWDP 26:</b> Telecommunications and Broadband</p>	<p>The policy expects new development to contribute towards the provision of suitable broadband and telecommunications infrastructure. Policy has the potential to result in:</p> <ul style="list-style-type: none"> <li>• increased levels of disturbance, during construction;</li> <li>• land take, which could lead to the loss and fragmentation of habitats.</li> </ul>

3.9 The four SWDP policies and their potential impacts were then screened against each of the European sites scoped into the HRA (**Appendix IV**). This included consideration of the environmental pathways and sensitivities of the sites, as well as mitigation provided by SWDP policies. **Appendix III and IV** detail the results of the HRA screening process for the SWDP, the key findings are summarised below.

### Screening Assessment

3.10 HRA screening good practice combines both a **plan** and a **site** focus. The policy screening removes from consideration, those elements of the **plan** unlikely to have effects on European sites. The remaining plan elements (summarised above) can then be considered in more detail for their impacts on European sites. The **site** focus considers the impacts and potential effects identified through the policy screening,

in the light of the environmental conditions necessary to maintain site integrity for the European sites scoped into the assessment (**Table 2**).

- 3.11 **Table 5** considers the potential impacts (**Figure 5**) arising from the SWDP policies (**Appendix III**) against the identified European sites (**Appendix IV**) to determine if there is the potential for likely significant effects.

Table 3.4: Screening Summary Key		
Likely Significant Effect	✓	Further Appropriate Assessment required
No Likely Significant Effect	✗	No further Appropriate Assessment required as no pathways identified
Significant Effect Uncertain	?	Precautionary approach taken and further Appropriate Assessment required

Table 5: HRA Screening Summary								
European sites	Potential Likely Significant Effects							
	Air Quality SWDP Policies: 1, 2 and new infrastructure policy.		Disturbance SWDP Policies: 1, 2 and new infrastructure & broadband and telecommunications policies.		Water Levels & Quality SWDP Policies: 1 and 2.		Habitat Loss & Fragmentation SWDP Policies: 1, 2 and new infrastructure & broadband and telecommunications policies.	
	A <sup>4</sup>	IC <sup>5</sup>	A	IC	A	IC	A	IC
<b>European sites within SWDP area</b>								
Bredon Hill SAC	✗	✗	?	?	✗	✗	✗	✗
Lyppard Grange SAC	✗	✗	?	✗	?	?	✗	✗
<b>European sites outside SWDP area</b>								
Dixton Woods SAC	✗	✗	✗	✗	✗	✗	✗	✗
Downton Gorge SAC	✗	✗	✗	✗	✗	?	✗	✗
River Wye SAC	✗	✗	✗	✗	✗	?	✗	✗
Severn Estuary SAC/ SPA/ Ramsar	✗	✗	✗	✗	✗	?	✗	✗
Walmore Common SPA/ Ramsar	✗	✗	✗	✗	✗	?	✗	✗

<sup>4</sup> AA required alone?

<sup>5</sup> AA required in combination?

- 3.12 The SWDP does not propose any development within or adjacent to any of the identified European sites so will not lead to the direct loss or fragmentation of designated habitats or species. Two European sites lie within the plan area (Bredon Hill SAC and Lyppard Grange SAC), however; considering the location of proposed development as well as the designated features of the sites themselves, it is assessed that the SWDP will not have likely significant effects (either alone or in combination) on either European site through habitat fragmentation and/or loss.
- 3.13 The screening did not identify any environmental pathways for impacts as a result of short range atmospheric pollution. The potential for impacts as a result of increased diffuse atmospheric pollution was also screened; however, the majority of European sites were considered to be either not sensitive to atmospheric pollution or located in an area that is unlikely to see a significant increase in diffuse atmospheric pollution as a result of the SWDP.
- 3.14 The screening considered that the SWDP would not have significant effects (either alone or in combination) on the European sites outside the plan area through disturbance. Given their distance from the plan boundary they are unlikely to experience a significant increase in noise and light pollution and/or recreational activity as a result of development proposed in the SWDP. These impacts, in particular recreational activity, are more likely to be an issue for the two European sites within the plan area. The screening assessed that there is uncertainty with regard to the potential for significant effects on Bredon Hill SAC and Lyppard Grange SAC as a result of increased disturbance. The effects of increased recreational activity on the integrity of the identified European sites will be considered in more detail through AA.
- 3.15 The screening assessment identified uncertainty with regard to the potential for significant in combination effects on seven European sites as a result of changes to water levels and five European sites as a result of changes to water quality. Based on the precautionary approach these issues will be considered in more detail through AA.

## 4.0 HRA STAGE 2: APPROPRIATE ASSESSMENT

- 4.1 This section addresses Stage 2 (Appropriate Assessment) of the HRA process, which considers if the likely significant effects on European Sites identified through the first Screening Stage (Section 3) have the potential to adversely affect European site integrity.
- 4.2 The screening of the SWDP (**Appendix III & IV**) and the review of plans and programmes 'in-combination' work (**Appendix II**) undertaken at the screening stage identified (Section 3) two main areas of impact arising that may have a significant effect on the identified European sites: disturbance and water levels and quality. Each of these issues are investigated further below.

### **Disturbance**

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- 4.3 The screening assessment concluded that there is uncertainty with regard to the potential for likely significant effects at the following European sites through increased recreational activity:
- Bredon Hill SAC
  - Lyppard Grange SAC

#### ***What are the issues arising from the plan?***

- 4.4 Development proposed in the SWDP and surrounding areas has the potential to increase the population and therefore levels of recreational activity at or near to the European sites.

#### ***How might the European sites be affected?***

- 4.5 Increased recreational activity has the potential to result in physical disturbance (e.g. the removal of decaying wood) of the habitats that support the designated features (Great Crested Newt and Violet Click Beetle).

#### ***What is the current situation?***

- 4.6 The NE Officer responsible for the Lyppard Grange Ponds SAC has indicated that the site is mainly at risk from litter, such as bottles and cans, particularly in the ponds. The Officer stated that the site has high levels of use, given its situation beside a large Tesco superstore and surrounded by residential development, but that the majority of people using the site stick to the designated path.<sup>6</sup>

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<sup>6</sup> Alastair Peattie (Enfusion) telephone conversation with Danielle Newman (Natural England). 16.07.2012.

- 4.7 The NE Officer responsible for Bredon Hill SAC has stated that recreational activity is not an issue at the site<sup>7</sup>.

***Is there potential for adverse effects on the integrity of European sites?***

- 4.8 Site specific information (provided by the Joint Nature Conservation Committee) does not identify recreational pressure as a key issue, although information for Bredon Hill SAC does indicate that disturbance of the decaying wood in which the Violet Click Beetle develops should be avoided. Available information suggests that site level management of the supporting habitats is the most important factor in maintaining the favourable condition of the designated features (Great Crested Newt and Violet Click Beetle).
- 4.9 The screening identified that there was uncertainty with regard to the potential for the SWDP to have LSE alone on the Lyppard Grange Ponds SAC through increased recreational activity. The SAC is situated to the East of Worcester City approximately 0.68km from the M5 and is enclosed by existing development, which includes a large Tesco to the west of the site. The SWDP proposes the following housing and employment allocations within 2km of the site:
- SWDP43/19 (Cedar Avenue/ Blackpole Road - 115 dwellings and 1.2 ha employment) is approx 1.5km away;
  - SWDP43/23 (Land South of Warndon Woods - 5ha of B1 employment land) is approximately 700m away;
  - SWDP43/8 (Land at Gransmere Drive/ Ullswater Close - 18 dwellings) is approx 850m away;
  - SWDP43/20 (Land at Nunnery Way - new football stadium) is approx 1km away; and
  - SWDP44/4 (Land at Shrub Hill OZ - 350 dwellings) is approx 1.8km away.
- 4.10 The likelihood of the proposed allocations significantly increasing the number of people that use the site is minimal - especially since the proposed residential allocations are located to the North and South West of the SAC so will not increase the number of people walking through the SAC to access the supermarket. There are also much larger areas of open space available for recreation within approximately 300 meters of the SAC. **It is assessed that the SWDP alone will not have adverse effects on the integrity of the Lyppard Grange Ponds SAC through increased disturbance.**
- 4.11 The screening identified that there was uncertainty with regard to the potential effects of the SWDP both alone and in combination on Bredon Hill SAC as a result of increased recreation. The SWDP proposes a small quantum of development within 5km of the SAC predominantly

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<sup>7</sup> Alastair Peattie (Enfusion) telephone conversation with Helen Trapp (Natural England). 16.07.2012.

in Category 2 and 3 Villages<sup>8</sup>. Considering the location and size of proposed development in relation to the SAC and that recreational activity is not an issue at the site, it is unlikely that the SWDP alone will result in a significant increase of recreational activity at the site.

- 4.12 There is the potential for development proposed in the SWDP to act in combination with the Gloucester, Cheltenham and Tewkesbury Joint Core Strategy, which proposes a strategic allocation (Ashchurch - 2,100 dwellings) within 5km of the SAC. However, given that recreational activity is not an issue on the site it is unlikely that there will be adverse effects on the integrity of the SAC. **It is assessed that the SWDP will not have adverse effects on the integrity of the Bredon Hill SAC either alone or in combination through increased disturbance.**

### **Water Levels & Quality**

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- 4.13 The screening assessment concluded that there is uncertainty with regard to the potential for likely significant in combination effects at the Severn Estuary SAC/ SPA/ Ramsar and Walmore Common SPA/ Ramsar through reduced water levels and quality. It also concluded that there is uncertainty with regard to the potential for likely significant in combination effects at Lyppard Grange SAC and the River Wye SAC through reduced water levels.

#### ***What are the issues arising from the plan?***

- 4.14 Development proposed in the SWDP has the potential to act in combination with development proposed in surrounding areas through increased levels of abstraction to provide water supply. There is also the potential for the SWDP to act in combination with other plans and programmes to increase pressure on sewerage capacity and levels of surface water run-off.

#### ***How might the European sites be affected?***

- 4.15 Increased abstraction in the Severn Water resource Zone has the potential to lead to reduced water levels, which can have adverse effects on the integrity of water dependent European sites. Changes to water levels can impact river flow and water quality, which can adversely affect water dependent habitats and the species that rely upon them. Increased discharges (consented) and surface water run-off (which can transfer pollutants to water bodies) has the potential to result in reduced water quality in the River Severn, which flows into the Severn Estuary SAC/ SPA/ Ramsar and adjacent to the Walmore Common SPA/ Ramsar.

#### ***Water Levels and Quality - What is the current situation?***

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<sup>8</sup> Category 2 and 3 villages are located in rural areas with a small range of services and facilities, capable of accommodating a limited amount of development (SWDP, June 2011 p.126-130).

- 4.16 Water resources for domestic supply within the region are scarce, Catchment Abstraction Management Strategies (CAMS) produced by the Environment Agency show that the majority of surface and groundwater sources in the SWDP area are either being over-abstracted or have no water available for further abstractions. Severn Trent Water (STW) has produced a Water Resource Management Plan (WRMP) that outlines a 25 year strategy for managing water resources across the supply area. The WRMP identifies six water resource zones (WRZs) within the supply area. The SWDP area is contained within the Severn WRZ. The WRMP predicts a net increase of approximately 31Megalitres/day (MI/d) in water consumption from 2006 - 2035 in the Severn WRZ. The supply/demand balance for the zone became negative in 2006/2007. The current projected supply/demand shortfall is around 120MI/d by 2035, taking into account the effects of climate change. This shortfall will arise if no further investment was made to leakage reduction, demand management and resource development. The WRMP outlines investment proposals to maintain the target headroom required to ensure security of supply to customers over the next 25 years. Sustainable and efficient use of available water resources will be required and in the long term there will be a need for more water resources and treatment capacity to meet the supply/demand balance.
- 4.17 A Water Cycle Study<sup>9</sup> (WCS) for South Worcestershire noted that as water resources are scarce in the SWDP area, demand management options are a vital consideration when planning and building any developments within the proposed strategic site allocations to provide sustainability both in terms of the aquatic environment and water supply. It also identifies that strategic site allocations proposed in the SWDP are able to be accommodated but all of them will need some infrastructure improvement whether it is for sewerage, sewage treatment or water supply. The WCS notes that the watercourses flowing through or near to the proposed strategic site allocations are currently failing to reach the WFD standards in terms of either their chemical or ecological quality. None of the proposed strategic site allocations are within groundwater protection zones and the current groundwater chemical quality is good, therefore in terms of pollution they are unlikely to have an adverse impact on the groundwater. However, several of the proposed strategic site allocations are above minor aquifers that are potentially 'sensitive' to pollution from any new development. The groundwater quantitative status is generally good apart from the area covering Worcester and Droitwich Spa. **Table 6** and **7** show the biological and chemical water quality of rivers in the SWDP area between April 2009 and March 2010.

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<sup>9</sup> JBA Consulting (September 2010) South Worcestershire Joint Core Strategy Water Cycle Study. Prepared for Malvern Hills District Council, Worcester City Council and Wychavon District Council.

<b>Table 4.1: Biological Water Quality of Rivers in SWDP area<sup>10</sup></b>			
<b>Local Authority</b>	<b>Good</b>	<b>Fair</b>	<b>Bad</b>
Wychavon	79.3%	16.6%	4.2%
Malvern Hills	80.7%	16.5%	2.8%
Worcester	59%	13.1%	27%

<b>Table 4.2: Chemical Water Quality of Rivers in SWDP area<sup>11</sup></b>			
<b>Local Authority</b>	<b>Good</b>	<b>Fair</b>	<b>Bad</b>
Wychavon	81.6%	12.8%	5.5%
Malvern Hills	87%	12.5%	0.5%
Worcester	55%	45%	0%

***Which other plans/ projects could lead to in-combination effects?***

4.18 The following plans and programmes have the potential to act in-combination with the SWDP as they propose development that has the potential to result in cumulative effects on water levels and quality:

- Severn Trent Water Resources Management Plan
- Severn River Basin Management Plan
- The Worcestershire Middle Severn Catchment Abstraction Management Strategy
- The Severn Corridor Catchment Abstraction Management Strategy
- The Teme Catchment Abstraction Management Strategy
- The Warwickshire Avon Catchment Abstraction Management Strategy
- Worcestershire County Council Waste Core Strategy
- Gloucestershire County Council Minerals Core Strategy
- Gloucestershire Waste Core Strategy, Focused Changes
- Gloucestershire County Council Third Local Transport Plan
- Wyre Borough Council LDF Core Strategy
- Bromsgrove District Council Core Strategy
- Forest of Dean District Council Core Strategy
- Redditch Borough Council Core Strategy
- Gloucester, Cheltenham and Tewkesbury Joint Core Strategy
- Stratford-on-Avon District Council LDF
- Shropshire Council LDF Core Strategy
- Cotswolds District Council LDF Core Strategy
- Herefordshire County Council Core Strategy
- Herefordshire Council Second Local Transport Plan

***Is there potential for adverse effects on the integrity of European sites?***

4.19 Any applications for new abstraction licences are assessed by the Environment Agency (EA) (through the Habitats Directive led, Review of Consents [RoC] process) to ensure that adverse impacts on

<sup>10</sup> South Worcestershire Development Plan Annual Monitoring Report December 2010.

<sup>11</sup> Ibid

internationally important nature conservation sites do not occur. If the assessment of a new application shows that it could have an impact on a European site the EA follows strict rules in setting a time limit for that license. This ensures that water levels at European sites do not fall below critical levels. The EA also has a duty to assess the effects of consented discharges to address the potential for impacts on internationally important nature conservation sites. This regulated process serves to protect European sites.

- 4.20 Even with the regulatory processes in place to protect European sites, the Councils should seek to ensure that SWDP policies address water quality and resource issues and put robust policy measures in place to provide mitigation. The SWDP contains policies that seek to minimise the impacts of proposed development on the water environment, these include:

#### Water Resources

- Policy SWDP 21 (Design) requires developments to contribute towards maximising opportunities for exceeding national timetables for water conservation/ efficiency by virtue of their design, layout and use of materials.
- Policy SWDP 30 (Water Resources Efficiency and Treatment) requires proposals to demonstrate that there are, or will be, adequate water supply in place to serve the whole development and does not permit schemes that would result in an unacceptable risk to the quantity of groundwater or surface water. It also supports development proposals incorporating grey water recycling and encourages the retrofitting of water efficiency measures. The policy requires that for housing proposals the daily non-recycled water use per dwelling must not exceed 105 litres per day per dwelling up to the 1<sup>st</sup> April 2016. After this date the required target will be 90 litres per day. For business / commercial proposals up to 1st April 2016, the water use must be such as to satisfy the BREEAM “very good” standard. Beyond 1st April 2016 the BREEAM “excellent” standard must be achieved.

#### Water Quality

- Policy SWDP 28 (Management of Flood Risk) requires development to not adversely affect the natural watercourse system which provides the drainage of land.
- Policy SWDP 29 (Sustainable Drainage Systems) sets out requirements for the incorporation of Sustainable Drainage Systems and the sustainable management of surface water. Proposals are required to demonstrate within a water management statement that site drainage and runoff will be managed in a sustainable and co-ordinated way mimicking the natural drainage network.
- Policy SWDP 31 (Pollution) requires development proposals be designed in order to avoid any significant adverse impacts, including cumulative ones, on water bodies.

- 4.21 A revised HRA (AA) Report was produced in July 2012 to consider the changes to the Plan proposed through the Targeted Consultation on Significant Changes to the Preferred Options (August to September 2012). The HRA assessed that given the ongoing pressures on water resources for domestic supply and water quality a number of additional mitigation measures were required, the HRA recommended:
- the SWDP include the requirement for sustainable water strategies to accompany all proposals for strategic developments.
  - that the design policy should set specific targets for the level of water efficiency expected for new development. As the size of a development proposal increases, so should the level of water efficiency measures. If viable, the Councils should consider a requirement for water neutrality for large/strategic development proposals.
- 4.22 The revised HRA (AA) Report (July 2012) assessed that as long as the recommendations were incorporated into the SWDP, it could be concluded that there will be no adverse in combination effects on the integrity of the identified European sites through reduced water levels and quality. Subsequently, the SWDP Pre-Submission Document has incorporated these recommendations through the requirement for water management statements and specific targets for water efficiency in new developments set out above (Para 4.20) in Policies SWDP 29 and 30.
- 4.23 The HRA process has helped to iteratively inform the development of the SWDP at each stage of its development. The policy mitigation outlined above in Para 4.20 is effective plan level mitigation and will contribute to the avoidance and mitigation of adverse impacts arising as a result of proposed development on the water environment.
- 4.24 Given the mitigation provided by Pre-Submission policies and current regulatory processes (EA Review of Consents), **it is assessed that the SWDP will not have adverse in combination effects on the integrity of the identified European sites through reduced water levels or water quality.**

## 5.0 HRA CONCLUSIONS

### HRA Summary

- 5.1 This report outlines the methods used and the findings arising from the HRA for the SWDP. The HRA of the SWDP has been undertaken in accordance with available guidance and good practice and has been informed by the HRA screening work and findings produced for earlier iterations of the South Worcester Development Plan (2011), as well as advice received from Natural England.
- 5.2 The first stage of the HRA process (screening) considered the likely significant effects on ten European sites within the influence the plan. The screening assessed that there is uncertainty with regard to the potential for significant effects on Bredon Hill SAC and Lyppard Grange SAC as a result of increased disturbance, in particular increased recreational activity. The screening also identified uncertainty with regard to the potential for significant in combination effects on seven European sites as a result of changes water levels and five European sites as a result of changes to water quality. Based on the precautionary approach these issues were progressed through to the AA stage to be considered in more detail.
- 5.3 The AA considered the potential for the SWDP to have adverse effects on the integrity of identified European sites through increased disturbance (recreational activity) and reduced water levels and quality. The AA assessed that the likelihood of proposed development increasing the number of people using Lyppard Grange Ponds SAC is minimal - especially given the much larger areas of open space available for recreation within approximately 300 meters of the site. It therefore concluded that the SWDP will not have adverse effects on the integrity of the Lyppard Grange Ponds SAC through increased disturbance. Considering the location and size of proposed development in relation to Bredon Hill SAC and that recreational activity is not an issue at the site, the AA concluded that the SWDP will not have adverse effects on the integrity of the SAC either alone or in combination through increased disturbance.
- 5.4 The AA assessed that the mitigation provided by Pre-Submission policies and current regulatory processes (EA Review of Consents) would ensure that the potential impacts of proposed development on the water environment would be minimised. It was concluded that the SWDP will not have adverse in combination effects on the integrity of the identified European sites through reduced water levels or water quality.
- 5.5 These findings will subject to further consultation comments and advice from NE and wider stakeholders.

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