

Solihull Metropolitan Borough Council
Core Strategy
Appropriate Assessment Screening Report
September 2008

Prepared by Warwickshire Wildlife Trust
on behalf of Solihull Metropolitan Borough Council

Summary

Solihull Metropolitan Borough Council (SMBC) is in the process of developing their Core Strategy, which aims to define a strategic and responsive approach to spatial planning across the borough for the next 20 years. As the Core Strategy is not directly connected with the management of European protected sites, it is necessary to analyse whether significant individual and in-combination impacts are likely to occur at these sites as a result of policies within the Core Strategy. This analysis constitutes a screening stage of an Appropriate Assessment in line with the mandatory requirements of Habitats Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Flora and Fauna.

The Core Strategy is currently in its initial phases of development, and as such only contains only broad policy areas at present. These policy areas have been assessed for their potential to impact upon the integrity of 12 Natura 2000 sites that lie within 50km of the borough boundary. Assessment is based upon a clear methodology which involves consultation with Natural England, the Environment Agency and SMBC's in-house ecologist, and determines outcomes for each site. From these outcomes recommendations can be made for further action.

The screening process has revealed the following key points:

- It is **unlikely** that Core Strategy policies will directly impact upon any sites.
- Possible impacts may arise as a result of growth and development policies that give rise to increased **recreational pressure**. Vehicular and aircraft emissions are likely to increase and thus affect local and regional **air quality**, potentially contributing to Nitrogen and acid deposition issues at sites located downwind of the borough.
- **Further screening** is strongly recommended in line with the **precautionary principle** for those sites where impacts are unclear or uncertain.

It will be necessary to undertake a subsequent screening of 4 sites for which significant impacts are considered possible once the Core Strategy is at a later stage of development. If significant impacts are considered likely at any of the sites, they will need to be progressed through to a full Appropriate Assessment.

1. Introduction

This report presents the analysis and findings of the screening stage of an Appropriate Assessment for the emerging Solihull Metropolitan Borough Council Core Strategy.

- 1.1 The Habitats Directive 92/43/EEC on the Conservation of Natural Habitats and Wild Flora and Fauna institutes a legislative framework for the protection of European important habitats through designation as Special Areas for Conservation (SAC), Special Protection Areas (SPA), Offshore Marine Sites¹ (OMS) and, within the UK, Ramsar sites. This network of sites is known collectively as Natura 2000.
- 1.2 The requirement for an Appropriate Assessment of strategic land use plans, policies and projects is outlined in article 6(3) and (4) of the Habitats Directive, and its stated purpose is to provide a critical examination of the likelihood of significant individual and in-combination impacts upon the nature conservation objectives of Natura 2000 sites arising from the land use plan.
- 1.3 It is important to identify potential adverse impacts at an early stage in the development of plans and policies in order that any alterations necessary to ameliorate or mitigate impacts can be made. The Solihull Metropolitan Borough Core Strategy is currently at the Issues and Options stage. From here, information gathered during public and stakeholder consultation will be used to inform the development of Preferred Options. Best practise guidance for Appropriate Assessment advises further screening should be undertaken throughout subsequent stages of the Core Strategy development process, when a more thorough appraisal of detailed policies can be made.
- 1.4 The precautionary principle underpins the Appropriate Assessment process, and for this reason when a clear conclusion of likelihood or significance of impacts cannot be drawn it is best practise to assume a “worst case scenario”, and undertake further investigation.

¹ It should be noted that at present there are no Offshore Marine Sites designated within the UK

2. Methodology

In undertaking the screening process best practise guidance produced by Scott Wilson *et al*² and Oxford Brookes University³ was followed in conjunction with the Department for Communities and Local Government publication "Planning for the Protection of European Sites: Appropriate Assessment". These guidance documents identify 3 discrete phases required to complete a full Appropriate Assessment, with the outcome of each phase determining the need for progression to the subsequent phase. In brief, these phases involve the following:

Phase 1 – Evidence gathering and screening

Phase 2 – Appropriate Assessment: should be undertaken if significant impacts are deemed likely by the screening phase

Phase 3 – Mitigation measures, compensation and alternative solutions to avoid impacts to protected site integrity

This report is concerned with Phase 1, screening of Natura 2000 sites to identify and assess the likelihood and significance of impacts to sites arising singularly from policies within the emerging Solihull Borough Core Strategy, and in combination with other plans and policies. The process for screening involves the following 4 steps:

a) **Identification** of Natura 2000 sites and an appraisal of their conservation objectives.

b) **Analysis** of the project or plan being considered

c) **Characteristics** of the Natura 2000 sites

d) **Assessment** of likelihood and significance of impacts to Natura 2000 sites occurring as a result of the policy or plan

If significant impacts are considered likely or cannot be determined, further screening will be required, which may then trigger progression to Phase 2, full Appropriate Assessment.

2.1 Site identification

Natura 2000 sites have been identified using information from the JNCC website⁴ and the interactive mapping programme "Nature on the Map" supplied by Natural England⁵. In order to identify all sites where impacts could reasonably be considered possible, a mapping search was conducted to highlight all SPA, SAC and Ramsar sites within 50km of the borough boundary. This is not an excessively broad search area given the unique nature of the wider conurbation that adjoins Solihull Borough, and which provides a contextual framework for consideration of impacts. In keeping with the precautionary principle it was deemed necessary to screen broadly in order to ensure a comprehensive appraisal of all reasonable potential direct and indirect individual and in-combination impacts to Natura 2000 sites. Best practise guidance states that all potential impacts must be appraised, and that this may require more distant sites to be considered: although safe from immediate impacts such as land-take and management practises, distant sites may still be vulnerable to impacts from water abstraction regimes, recreational pressure, diffuse air pollution, and water pollution. After discussion with Natural England and SMBC in-house ecologist it was decided that it was appropriate to screen one site in excess of 50km away, the Peak District Dales SAC, and this lies within the most visited National Park in the UK.

² Scott Wilson, Levett-Therivel Sustainability Consultants, Treweek Environmental Consultants and Land Use Consultants (2006) "Appropriate Assessment of Plans"

³ Oxford Brookes University (2001) "Assessment of plans and projects significantly affecting Natura 2000 sites: methodological guidance on the provisions of article 6(3) and (4) of the Habitat Directive 92/43/EEC"

⁴ www.jncc.gov.uk

⁵ www.natureonthemap.org.uk

2.2 Site analysis

Natura 2000 sites support habitats and/or species that are considered to be of European importance. The variety of features that can qualify a site for designation will vary in their resilience and vulnerability to a range of impacts. Thus an important part of screening is to identify the qualifying features of interest at each Natura 2000 site, and to assess the type of impact that could impinge upon the maintenance of site integrity. An analysis of the designation features, conservation interests and specific vulnerabilities of each site is provided in table 1.

Table 1: Description of site designation and conservation objectives

Site	Grid Reference	Distance from Solihull Borough boundary	Designation and Conservation Objectives	Factors affecting site integrity
Ensor's pool SAC	SP348903	8.9km	White-clawed Crayfish <i>Austropotamobius pallipes</i> (Annex II species) – Isolated away from other river systems the site provides a refuge area for a very large population of the species (Approx 50,000). Ensure maintenance of the habitat in a favourable condition for the White-clawed Crayfish.	Water quality Pollution could affect crayfish at all stages of the life cycle. Water quantity Site may be threatened by water abstraction. Habitat management The site is being managed as a Local Nature Reserve at present. Non-native or invasive species Population will be vulnerable to the invasive signal crayfish or the threat of diseased crayfish from the midlands area.
Cannock Extension SAC	SO920888	19.1km	Floating Water Plantain <i>Luronium natans</i> (Annex II species) - The site provides favourable conditions to support a very large population of this species. The population represents the very eastern limit of the plants natural range in England. Ensure favourable conditions for floating-water plantain are maintained. Cutting of emergents may be required if disturbance occurs.	Recreational disturbance Floating water plantain requires low levels of disturbance and is vulnerable to competition from emergent species, if disturbed. Increased use of boats on this site could be detrimental. Water quality Surface runoff from surrounding roads is having a detrimental effect on water quality. Air pollution May contribute to a decline in water quality through acid and Nitrogen deposition.
River Mease SAC	SK260114	21.4km	Water courses of plain to montane levels with <i>Ranunculon fluitantis</i> and <i>Callitricho-Batrachion</i> Vegetation (Annex I habitat)	Recreational disturbance Increased recreational use of the river may increase water pollution and bank erosion. Water quality Land use in the surrounding

Spined loach *Cobitis taenia* (Annex II species) – The site supports beds of submerged plants and sandy sediments which supports a good riverine population of the spined loach and provides further habitat opportunities.

Bullhead *Cottus gobio* (Annex II species) – The sinuosity of the river and the macrophyte cover provides suitable habitat to support a population of the species.

White-clawed crayfish *Austropotamobius pallipes* and Otter *Lutra lutra* (Annex II supporting species) are both present within the habitat.

Ensure the river is maintained at a favourable status for floating formations of water crowfoot species (*Ranunculus* spp), populations of bullhead, spined loach and white-clawed crayfish. Maintain the river and the surrounding lands to provide suitable habitat for populations of otter.

area causes diffuse pollution and sedimentation, factors which are likely to have a negative impact on bullhead and white-clawed crayfish
Water quantity River water levels can be adversely affected by abstraction. Agricultural practices are noted to induce 'high competition for water resources' (SAC Natura 2000 data form).

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Fens Pool SAC	SK020058	21.6km	<p>Great Crested Newt <i>Triturus cristatus</i> (Annex II species) – The open water, swamp, fen and inundation communities on the site provide ideal breeding habitat for great crested newt and an important amphibian assemblage.</p> <p>Ensure maintenance of the habitat in a favourable condition for great crested newt.</p>	<p>Land take Development and change of land use may reduce or fragment the newts available terrestrial habitat.</p> <p>Recreational disturbance The site is currently threatened by recreational disturbance.</p> <p>Water quality The site is vulnerable due to the surrounding urban developments.</p> <p>Water quantity Loss of ponds would reduce breeding areas for the great crested newt.</p> <p>Habitat management Appropriate management is required to ensure favourable</p>
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Lyppard Grange Ponds SAC	SO879556	28.1km	<p>Great crested newt <i>Triturus Cristatus</i> (Annex II species) – The site contains good quality terrestrial and aquatic habitats for great crested newt.</p> <p>Ensure maintenance of the habitat in a favourable condition for the Great Crested Newt</p>	<p>habitat is maintained for great crested newts.</p> <p>Non-native or invasive Species The newt population would be negatively affected, due to predation, if fish were to be introduced to the site.</p> <p>Land take Development and encroachment on to the margins of the site could restrict and fragment the available terrestrial habitat of the newts.</p> <p>Recreational disturbance The site is vulnerable to recreational disturbance.</p> <p>Water quality The site may be significantly vulnerable to the pollution and runoff from the surrounding urban developments.</p> <p>Water quantity A further loss of ponds would reduce suitable breeding habitat for the newts.</p> <p>Habitat management Appropriate management of invasive species and shading trees is required to ensure favourable habitat is maintained for the newts.</p>
Cannock Chase SAC	SJ982188	28.3km	<p>European dry Heaths (Annex I habitat) – The most extensive example of lowland dry heath in the midlands consisting of NVC heath types H8 <i>Calluna vulgaris</i> – <i>Ulex gallii</i> and H9 <i>Calluna vulgaris</i> – <i>Deschampsia flexuosa</i>. The vegetation character is intermediate between the heaths of northern and southern England, and supports important populations of butterflies and beetles.</p> <p>Northern Atlantic Wet Heaths with <i>Erica tetralix</i> (Supporting Annex I habitat)</p> <p>Ensure maintenance of the European dry heaths with reference to H8 <i>Calluna vulgaris</i> – <i>Ulex gallii</i> and H9 <i>Calluna vulgaris</i> – <i>Deschampsia flexuosa</i></p>	<p>Recreational pressure High visitor numbers are leading to trampling, soil erosion, and vegetation damage.</p> <p>Water quantity Ground water levels are threatened by abstraction.</p> <p>Air pollution NOx deposition is 18 times above the critical load, which is negatively impacting upon heath-land vegetation community composition.</p>

			communities, to a favourable condition. Ensure maintenance of the North Atlantic wet heaths to a favourable condition with reference to M16 <i>Erica tetralix</i> – <i>Sphagnum compactum</i> communities.	
Bredon Hill SAC	SO965406	35.2km	Violet Click-Beetle <i>Limoniscus violaceus</i> (Annex II species) – The site contains a large amount of decaying and ancient trees, particularly Ash <i>Fraxinus excelsior</i> , that appears to be the main species used for the development stages of the nationally rare beetle. Ensure maintenance of <i>Limoniscus violaceus</i> to a favourable condition with the consideration to the conservation of ancient ash woodland.	Air pollution Site is at risk from an increase in NOx deposition as critical loading levels are already exceeded. Non-native or invasive Species The young trees of desirable species are vulnerable to competition from invasive species.
Pasturefields Salt Marsh SAC	SJ992249	36.2km	Inland salt meadows (Annex I habitat) Priority feature – The site is the last remaining salt marsh in the UK that contains a natural salt spring with inland salt marsh vegetation. Ensure the salt marsh is maintained to a favourable condition.	Water quality The essential brine source of the site is at risk from flooding from the River Trent and the impacts of a freshwater ditch running through the site. Water quantity The site is at risk from increased abstractions of the underground aquifer. Air pollution An increase in NOx deposition could potentially alter the vegetation composition in favour of more generalist species.
Mottey Meadows SAC	SJ840134	37.5km	Lowland hay meadows <i>Alopecurus pratensis</i> , <i>Sanguisorba officinalis</i> (Annex I habitat) – The site is a large example of a nationally rare grassland. It supports <i>Fritillaria meleagris</i> in the most northern part of its range and a number of other rare meadow species. Ensure habitat is maintained as	Water quality Nutrient-rich agricultural run-off threatens the community composition of the meadows. Water quantity This site is highly vulnerable to changing water levels due to the high dependency of the species mix on the autumn/winter ground water table. Air pollution The site is vulnerable to NOx deposition due to being close to critical loading

designated and in a favourable condition.

point. An increase in NO_x may alter community composition unfavourably.

Habitat management Traditional management regimes are necessary to maintain the site in favourable condition

Invasive or non-native species

West Midlands Mosses SAC	SK026282	39.2km	<p>Natural dystrophic Lakes and Ponds (Annex I habitat) – This site is a rare example of dystrophic lakes and ponds in the English lowlands. It consists of 3 lakes, one of which has a high diversity of flora and fauna due to its unusual base rich character.</p> <p>Transition mires and quaking bogs (Annex I habitat) – The floating rafts of sphagnum dominated vegetation support a mix of sedges <i>Carex spp</i> and cranberry <i>Vaccinium oxycoccos</i> and are confined in their geographical range to the midlands area of England.</p> <p>Ensure maintenance of both habitats as designated, to favourable condition</p>	<p>Recreational pressure The site is vulnerable to recreational activities that may increase trampling erosion and an increased risk of accidental burning.</p> <p>Water quality Polluted run off poses a threat to vegetation</p> <p>Water quantity Site integrity is dependant upon appropriate ground water levels</p> <p>Air pollution The site is currently exceeding critical load of NO_x deposition.</p>
Midlands Meres and Mosses Phase I Ramsar	Various	locations	<p>This site comprises a matrix of 16 lowland peatland and water bodies. The range of habitats are botanically diverse, supporting 5 nationally scarce wetland plant species and invertebrate assemblages</p> <p>(Conservation objectives not available)</p>	<p>Recreational Pressure The site is vulnerable to trampling and erosion in areas of public access.</p> <p>Water quality Eutrophication and sedimentation are detrimental to site integrity.</p> <p>Invasive species Invasive species are already threatening the site</p>

Peak District Dales SAC	SK142550	75km	<p>Semi-natural dry grasslands and scrubland facies on calcareous substrates. <i>Tilio-Acerion</i> forests of slopes, screes and ravines (Annex I habitats)</p> <p>European dry heaths, Calaminarian grasslands of the <i>Violetalia calaminariae</i>, alkaline fens, calcareous and calcshist screes of the montane to alpine levels, calcareous rocky slopes with chasmophytic vegetation (Supporting Annex I habitats)</p> <p>White-clawed crayfish <i>Austropotamobius pallipes</i> (Annex II species)</p> <p>Brook lamprey <i>Lampetra planeri</i> and bullhead <i>Cottus gobio</i> (Supporting Annex II species)</p> <p>Ensure maintenance of all Annex I and supporting Annex I habitats to a favourable condition as designated.</p> <p>Ensure the maintenance of habitats for white-Clawed Crayfish, bullhead and brook lamprey in a favourable condition.</p>	<p>Recreational Pressure Tourism to the site is likely to increase which could have significant impact on soil erosion and vegetation disturbance.</p> <p>Water quality</p> <p>Air Pollution The site is in excess of its critical NOx load and further increases would likely have a significant detrimental effect. The <i>Tilio-Acerion</i> forests and ancient woodlands would be particularly vulnerable to high levels of nitrogen</p> <p>Invasive or non-native species</p>
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2.3 Analysis and implications of Core Strategy policy area objectives

The issues, objectives and options that form a basis for policy areas in the Solihull Borough Core Strategy have undergone an initial Sustainability Appraisal, and subsequent revision. The revised policy areas and attendant objectives have been analysed individually to isolate possible pathways for direct and indirect impacts that may have a significant impact upon the integrity of Natura 2000 sites (see table 2). This process has been informed by consultation with Natural England, the Environment Agency and Solihull Metropolitan Borough Council’s in-house ecologist.

Table 2: Analysis and implications of broad policy area objectives of the Solihull Borough Core Strategy

Broad policy area	Key Objectives	Potential effects of policy objectives
Housing and settlement hierarchy	Provide appropriate mix of housing stock to meet the housing target of X new homes by YEAR defined for the Borough by the WMRSS	<ul style="list-style-type: none"> As all Natura 2000 sites identified lie at some distance from the Borough there will be no direct impacts arising from land take for housing developments. New housing developments will require further abstraction, principally from the Blythe, Tame, Cole and Arrow catchments. As there are no Natura 2000 sites within these catchments there are no significant impacts anticipated through increased abstraction Increased urbanisation has the potential to exacerbate flooding incidents, but this is unlikely to impact upon Natura 2000 sites as none fall within catchments affected by activities in Solihull Borough. Transportation of resources into the Borough to meet the requirements of a growing population will add to background air pollution across the region. In areas where congestion is already identified as impacting upon European sites via deposition of Nitrogen and acid and contaminated run-off, further vehicle movements could have a critical cumulative effect upon flora and fauna.
Transport	Develop well integrated public transportation network	<ul style="list-style-type: none"> A reduction in the usage of private vehicles could lead over time to an improvement in air quality and lower levels of Nitrogen and acid deposition, positively impacting upon Natura 2000 sites downwind of the Borough.
	Support Birmingham International Airport Ltds ambition for growth	<ul style="list-style-type: none"> Passenger movements are projected to increase by 2030 as the main runway extension expands the range of destinations served by the airport, and thus aviation related air pollution could affect Natura 2000 sites downwind of the Borough. Key routes across the region to the airport include the M6, M42 and A45, all of which already suffer from congestion during peak hours; air pollution could be exacerbated by increased journeys to the airport, potentially affecting Natura 2000 sites located downwind from the Borough.
	Address congestion by encouraging travel by public transport, cycling and walking	<ul style="list-style-type: none"> Congestion avoidance strategies such as promotion of flexi-working, green travel plans and car-sharing priority lanes may all contribute to addressing air pollution issues across the Borough and wider regional area.

Economic growth	Ensure continued success of Borough's key economic drivers	<ul style="list-style-type: none"> • Maintaining the vigour of the local economy reduces the need for daily migration outside the Borough to access services, bringing a potential reduction in air pollution. • Securing the future of major employers in the Borough may help to reduce commuting and therefore congestion, having a positive impact on air quality. • Birmingham International Airport is noted as an economic driver for the Borough, and its proposed expansion will undoubtedly continue to contribute to economic growth. However, the implications of this for background air pollution from increased flights and traffic congestion to impact upon Natura 2000 sites downwind of the Borough must be recognised.
	Enable economic diversification and increased economic activity	<ul style="list-style-type: none"> • The local economy could potentially suffer unless the issue of higher skills shortage is resolved locally, or access to a workforce beyond the Borough boundaries is secured. This latter point may necessitate an increase in commuter journeys, contributing to background air pollution.
	Maintain viability of retail centres and build upon the town centre as a strategic centre	<ul style="list-style-type: none"> • Meeting the retail requirements of the population at local centres may have a positive effect on background air pollution levels by reducing the need for travel.
Environment	<p>Promote, conserve and enhance the unique environmental character of the Borough</p> <p>Conserve, enhance and increase nature conservation resources, bolstering the protected sites network, establishing habitat corridors, and promoting the importance of biodiversity</p> <p>Avoid deterioration of air quality in pollution sensitive areas</p>	<ul style="list-style-type: none"> • Drawing recreation inwards by promoting unique aspects of the Borough as providing opportunities for leisure and cultural pursuits may reduce impacts upon those protected sites which attract people for outdoor activities. • Awareness of the value of biodiversity may result in more responsible use of protected sites during recreational activities, lessening damage caused by erosion, trampling and fires. • A greater abundance of accessible, high quality, local "wild" spaces that offer opportunities to interact with the natural world may help to reduce recreational pressure upon honey-pot destinations across the region. • Natura 2000 sites do not exist in isolation, but should rather be viewed as a critical component in an ecological landscape matrix: the long term viability of protected sites is questionable if there are not sufficient habitat linkages across the wider landscape to facilitate the migration of flora and fauna. Therefore it can be considered that any contribution made by Solihull Borough to improving the cohesion and connectivity of natural habitats across the local landscape is contributing positively to maintaining the integrity of Natura 2000 sites within the wider region. • Measures to avoid further deterioration in air quality should contribute positively to background levels of air pollutants.

	Provide a well designed network of accessible green places and open spaces	<ul style="list-style-type: none"> The provision of high quality, multifunctional, large area open spaces could potentially reduce the pressure upon Natura 2000 sites that are used for outdoor recreation.
Waste	Reduce quantity of waste to landfill	<ul style="list-style-type: none"> This could potentially have a positive impact by reducing the number of waste transfer journeys, thus contributing to a reduction in background air pollution levels.
	Improve facilities to manage waste higher up production hierarchy	<ul style="list-style-type: none"> Local facilities to process recyclable waste will reduce the volume of scheduled waste transfer journeys, and may contribute positively to improving background air quality.
Climate change and sustainable development	<p>Maximise sustainability of new development and growth by facilitating efficient use of local resources and promoting use of renewable, low carbon energy sources</p> <p>Secure access to local services that meet the needs of the Borough's population</p> <p>Ensure that all new development makes a positive contribution to biodiversity with the Borough</p>	<ul style="list-style-type: none"> Maximising usage of local resources minimises the need to transport resources into the Borough, potentially having a positive impact on air quality. Local, low carbon renewable energy sources reduces demand upon non-renewable production facilities, which over the long-term may precipitate substantial reductions in emissions and consequently contribute to improving background air quality across the region. Meeting service needs locally may have a positive effect on background air pollution levels by reducing the need for travel to access services. Enhancing the biodiversity resource locally in a variety of locations may reduce the perceived need to travel to flagship sites in order to interact with nature, thus lessening the pressure upon these sites.
Leisure and culture	Meet the recreational needs of all the Borough's residents	<ul style="list-style-type: none"> Addressing the demand for accessible outdoor leisure facilities that are not currently provided for within the Borough might benefit protected sites that suffer impacts associated with recreation.
North Solihull regeneration	Support regeneration activities that provide sustainable solutions to improve life chances	<ul style="list-style-type: none"> If regeneration activities adhere to the principles mooted in other policies within the Core Strategy, notably those pertaining to sustainable development and economic sustainability, the scheme could bring some environmental benefits as detailed previously.

3. Screening

The Core Strategy will detail policies to enable a strategic and responsive approach to spatial development across Solihull Borough, but will not deal with site-specific allocations. As the Core Strategy is still in its early stages of development, it is only possible to screen broad policy areas and objectives; pathways for impacts to Natura 2000 sites will become more obvious as the Core Strategy becomes more detailed. The most likely significant impacts upon Natura 2000 sites arising from the emerging Core Strategy are those associated with leisure and recreational pressures brought about by a growing population (disturbance, erosion, trampling, fires) and transportation related issues (air quality, water quality). As all of the Natura 2000 sites identified are well beyond the administrative boundaries of the Borough, there will be no direct land-take to accommodate the provisions of development policies. Interruption to hydrological regimes is considered highly unlikely as all sites lie beyond catchments affected activities in Solihull Borough.

The screening matrix for each site and specific vulnerability provides a consideration of likely individual and in-combination impacts arising from the Core Strategy, and makes an informed assessment as to the significance of these impacts upon the site integrity (see table 3). Factors posing specific threat to each site's integrity were identified in table 1 and have been followed through into the screening process below.

Table 3: Assessment of significance of individual and in-combination impacts upon Natura 2000 sites

Key:

	No Likely Significant Effect (NLSE)
	Possible Significant Effect (PSE)
	Likely Significant Effect (LSE)

Site	Factors affecting site integrity	Potential impacts arising from broad policy areas of Core Strategy	Potential impacts arising in combination with other plans and policies	Significance of impacts
Ensor's Pool SAC	Water quality	There are no identified pathways for Core Strategy policies to affect water quality at this site.	N/A	NLSE
	Water quantity	Water abstraction to meet housing development will not impact upon this site, which is predominantly rain water fed.	N/A	NLSE
	Habitat management	Policies within the Core Strategy will not affect positive habitat management at this site.	N/A	NLSE

	Invasive/non-native species	There are no identified pathways for Core Strategy policies to cause the introduction or proliferation of invasive/non-native species.	N/A	NLSE
Cannock Extension Canal SAC	Recreational pressure	It is possible that population growth within the Borough will lead to increased usage of the canal for leisure pursuits; boating traffic could affect water quality and directly impact upon the aquatic flora, a qualifying feature of the site, through disturbance. This site is not, however, unique in the recreation opportunities it provides, as there are a number of alternative canal and river recreation facilities within Warwickshire.	The Visitor Economy Strategy for the West Midlands identifies the Cannock Extension Canal as a key leisure and recreational resource, which may have implications for the site when considered in combination with the anticipated population growth in Solihull Borough. Increased boating traffic may adversely impact upon water quality and the aquatic floral interest of the site.	PSE Further screening is recommended as Core Strategy policies are refined to better assess the likelihood of impacts
	Water quality	There are no identified pathways for Core Strategy policies to directly impact upon water quality at this site.	N/A	NLSE
	Air pollution	Whilst some Core Strategy policies will lead to an increase in background air pollution levels, it is unlikely that these levels will be sufficiently high to cause damage to the floral interest at the site through deposition, as there will be a dilution effect in the water.	N/A	NLSE
River Mease SAC	Recreational pressure	It is considered unlikely that population growth within the Borough will lead to a significant increase in recreational pressure at this site, as there are locations across the West Midlands in greater proximity to Solihull Borough offering similar recreation opportunities and facilities.	The River Mease is not promoted through the West Midlands Visitor Economy Strategy as a recreation destination, and as such it is unlikely to attract significantly higher numbers of visitors despite the projected population growth for the region.	NLSE
	Water quality	There are no identified pathways for Core Strategy policies to affect water quality at this site.	N/A	NLSE
	Water quantity	Water abstraction to meet housing development in the Borough will not impact upon this site as it does not fall within any of the catchments affected by Solihull Borough.	N/A	NLSE

	Habitat management	Policies within the Core Strategy will not affect positive habitat management at this site.	N/A	NLSE
	Land take	As the site lies beyond the boundary of the borough the Core Strategy will not result in land take at this site.	N/A	NLSE
	Invasive/non-native species	There are no identified pathways for Core Strategy policies to cause the introduction or proliferation of invasive/non-native species.	N/A	NLSE
Fens Pools SAC	Recreational pressure	Population growth in Solihull Borough is unlikely to result in increased visitor numbers to this site, which is not promoted as a recreation destination.	N/A	NLSE
	Water quality	There are no identified pathways for Core Strategy policies to affect water quality at this site.	N/A	NLSE
	Water quantity	Water abstraction to meet housing development in the Borough will not impact upon this site as it does not fall within any of the catchments affected by Solihull Borough.	N/A	NLSE
Lyppard Grange Ponds SAC	Recreational pressure	Policies within the Solihull Borough Council are highly unlikely to contribute to increased recreational pressure at this site	N/A	NLSE
	Water quality	There are no identified pathways for Core Strategy policies to affect water quality at this site.	N/A	NLSE
	Water quantity	Water abstraction to meet housing development in the Borough will not impact upon this site as it does not fall within any of the catchments affected by Solihull Borough.	N/A	NLSE
	Habitat management	Policies within the Core Strategy will not affect positive habitat management at this site.	N/A	NLSE

	Land take	As the site lies beyond the boundary of the borough the Core Strategy will not result in land take at this site.	N/A	NLSE
Cannock Chase SAC	Recreational pressure	Cannock Chase is a honey pot recreation destination, offering scenic walks, self-guided mountain biking and horse riding trails in an AONB. As it is a unique destination within the West Midlands, it is possible that population growth in Solihull Borough will contribute to higher visitor numbers.	The Visitor Economy Strategy for the West Midlands identifies Cannock Chase for development as a key recreation centre. Infrastructure enhancements to improve the resilience of the site to increasing visitor numbers are likely to result in land take. High visitor numbers contribute to soil erosion, trampling, fire and the invasion of scrub species, all of which are detrimental to the sites integrity.	PSE Further screening is recommended as Core Strategy policies are refined to better assess the likelihood of impacts
	Water quantity	Additional water abstraction to meet the requirements of new housing development is unlikely to impact upon ground water levels at Cannock Chase as the site does not lie within a catchment affected by Solihull Borough.	N/A	NLSE
	Air pollution	The main routes to the site are the A34, A460 and A513, all of which currently experience congestion, and consequently parts of the site close to the road network already suffer from the effects of air pollution. Higher visitor numbers from Solihull Borough are likely to add to traffic volume, exacerbating air pollution and therefore contributing further to Nitrogen and acid deposition. As Nitrogen and acid deposition levels in certain parts of the site are 18 times above the critical load threshold, further impoverishment of air quality is likely to have significant negative impact upon site integrity. Growth and development policies within the Core Strategy are likely to contribute further to impoverishment of the regions background air quality, which may have a diluted impact upon Cannock Chase SAC.	Increasing visitor journeys from across the West Midlands are likely to contribute further to the localised Nitrogen and acid deposition occurring at areas of the site bounded by roads. Development in settlements adjacent to the site may increase the volume of local traffic movements on the A34, A460 and A513, again contributing to air pollution and acid deposition. Growth and development across the region is likely to lead to increased levels of airborne pollutants which could negatively impact upon Cannock Chase.	PSE Further screening is recommended as Core Strategy policies are refined to better assess the likelihood of impacts

Bredon Hill SAC	Air pollution	It is likely that growth and development policies in the Core Strategy will contribute to an increase in background air pollution levels. However, impact to this site from NOx deposition should be minimal as Bredon Hill SAC lies to the southwest of Solihull, and is therefore upwind of the borough. There is a degree of uncertainty in this prediction, however, as aircraft emissions are ejected at a higher altitude and are subject to less consistent wind patterns.	Policies within the West Midlands Regional Spatial Strategy (WMRSS) for growth and development in the region are considered likely to contribute to impoverished air quality.	PSE Further screening is recommended as Core Strategy policies are refined to better assess the likelihood of impacts
	Invasive/non-native species	There are no identified pathways for Core Strategy policies to cause the introduction or proliferation of invasive/non-native species.	N/A	NLSE
Mottey Meadows SAC	Water quality	There are no identified pathways for Core Strategy policies to affect water quality at this site.	N/A	NLSE
	Air pollution	Core Strategy policies will contribute to an increase in background air pollution levels across the region. However, impact to this site from acid and Nitrogen deposition is unlikely to be a significant issue as the site lies to the north west of Solihull, and as such should not be in receipt of a significant level of exported airborne pollutants	N/A	NLSE
	Habitat management	Policies within the Core Strategy will not affect positive habitat management at this site.	N/A	NLSE
	Invasive/non-native species	There are no identified pathways for Core Strategy policies to cause the introduction or proliferation of invasive/non-native species.	N/A	NLSE
Pasturefields Salt Marsh SAC	Water quality	There are no identified pathways for Core Strategy policies to affect water quality at this site.	N/A	NLSE
	Water quantity	Additional water abstraction to meet the requirements of new housing development is unlikely to impact upon ground water levels as	N/A	NLSE

		this site does not lie within a catchment affected by Solihull Borough.		
	Air pollution	Whilst some Core Strategy policies will lead to an increase in background air pollution levels, this site is not downwind of the Borough and so is unlikely to be impacted upon.	N/A	NLSE
West Midlands Mosses SAC	Recreational pressure	Population growth in Solihull Borough is unlikely to result in increased visitor numbers to this site, which is not promoted as a recreation destination.	N/A	NLSE
	Water quality	There are no identified pathways for Core Strategy policies to affect water quality at this site.	N/A	
	Air pollution	Core Strategy policies will contribute to an increase in background air pollution levels across the region. However, impact to this site from NOx deposition is unlikely to be a significant issue as the site lies to the north west of Solihull, and as such should not be in receipt of a significant level of exported airborne pollutants.	N/A	NLSE
	Invasive/non-native species	There are no identified pathways for Core Strategy policies to cause the introduction or proliferation of invasive/non-native species.	N/A	NLSE
Midlands Meres and Mosses Phase I Ramsar	Recreational pressure	It unlikely that recreation pressure at this site will be increased by population growth across Solihull Borough.	N/A	NLSE
	Water quality	There are no identified pathways for Core Strategy policies to affect water quality at this site.	N/A	NLSE
	Invasive species	There are no identified pathways for Core Strategy policies to cause the introduction or proliferation of invasive/non-native species.	N/A	NLSE

Peak District Dales SAC	Recreational pressure	The Peak District National Park, of which the 2,326ha Peak District Dales SAC forms part, covers 144,000ha and attracts in the region of 22 million visitors per year, making it the second most visited National Park in the world. The District Dales is a unique destination and as such is likely to attract more visitors from the Borough as the local population increases. Core Strategy policies relating to the provision of recreation opportunities in the Borough are unlikely to stem visitor numbers to the Dales.	Visitor numbers are anticipated to increase as a result of growth and development policies within the WMRSS. Depending upon the volume of visitors, infrastructure improvements may be required, which could potentially further impact upon the site via land-take; equally, improvements to route infrastructure across the site may reduce the incidence of trampling and soil erosion.	PSE Further screening is recommended as Core Strategy policies are refined to better assess the likelihood of impacts
	Air pollution	The site lies downwind of Solihull Borough and as such is likely to receive a greater volume of dispersed airborne pollutants from aircraft and vehicular emissions. The degree to which export of air pollution will affect this site is presently unclear.	Population growth and development across the West Midlands will contribute to airborne pollutants from aircraft and vehicular emissions. Pollutants are likely to be deposited at the site as prevailing winds blow from a south-west to north-easterly direction.	PSE Further screening is recommended as Core Strategy policies are refined to better assess the likelihood of impacts

4. Conclusion

The screening matrix demonstrates that no Core Strategy policies will directly result in land-take, contribute to the proliferation of invasive and/or non-native species, lead to alteration of hydrological regimes, necessitate changes in habitat management, or affect water quality at any of the 12 Natura 2000 sites listed. The principal source of potential impact will be from population growth and development leading to increased recreation pressure, and air quality issues associated with increased road and air traffic volume. There is a degree of uncertainty as to whether these impacts will be significant or not, and therefore it is recommended that a subsequent screening of policies is undertaken during the production of the Core Strategy Preferred Options. The sites that should be taken forward for this further screening are:

- Cannock Extension Canal SAC
- Cannock Chase SAC
- Bredon Hill SAC
- Peak District Dales SAC

If it is considered likely that significant impacts will be mediated at these sites by Core Strategy policies a full Appropriate Assessment should be undertaken to investigate alternative options and address mitigation and compensation.

At this stage in the development of the Core Strategy it is worth considering how innovative local solutions could effectively prevent recreation pressure impacting upon Natura 2000 sites. The creation of local sites offering an equivalent opportunity to interact with nature may help to divert visitor pressure away from honey-pot sites, and an integrated public transport system to facilitate access to outdoor sites both within the borough and beyond could moderate private vehicle dependancy, thus contributing to an improvement in background air quality and a reduction in localised Nitrogen and acid deposition.