

ED.3.17

Habitats Regulations Assessment of the Stratford-on-Avon District Core Strategy

Screening Report

July 2012



LEPUS CONSULTING

LANDSCAPE ECOLOGY, PLANNING AND URBAN SUSTAINABILITY



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Client:	Stratford-on-Avon District Council
Report Title:	Habitats Regulations Assessment of the Stratford-on-Avon Core Strategy
Status:	Final
Version:	1
Filename:	LC-0026_Stratford_Core_Strategy_HRA_2_060712MGP
Date:	6th July 2012
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Abbreviations

AQMA	Air Quality Management Area
CAMS	Catchment Area Management Strategy
CLG	Department of Communities and Local Government
CO ₂	Carbon dioxide
GI	Green Infrastructure
HRA	Habitats Regulations Assessment
IROPI	Imperative Reason for Overriding Public Interest
NPPF	National Planning Policy Framework
RBMP	River Basin Management Plan
RoC	Review of Consent
SAC	Special Area of Conservation
SFRA	Strategic Flood Risk Assessment
SPA	Special Protection Areas
SPD	Supplementary Planning Document
SSSI	Site of Special Scientific Importance
STW	Severn Trent Water
SuDS	Sustainable Drainage Systems
WFD	Water Framework Directive
WRMP	Water Resource Management Plan
WwTW	Waste Water Treatment Works

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Executive Summary

E1 Introduction

E1.1 Lepus Consulting on behalf of Stratford-on-Avon District Council is preparing an initial screening report for Habitats Regulations Assessment (HRA) of the Stratford-on-Avon District third Draft Core Strategy (February, 2012). The initial screening assessment focuses on the likely significant effects of the Core Strategy on the nature conservation interests of European-protected areas within 20km or connected to the Stratford-on-Avon District. It seeks to establish whether or not there could be any adverse effects on the ecological integrity of these European sites as a result of proposals in the plan. This initial screening assessment is designed to act as an early warning system that identifies any potential HRA issues at this early stage which could arise as a result of the proposals within the Core Strategy.

E1.2 European sites are areas of international nature conservation importance that are protected for the benefit of the habitats and species they support. The report explores how the integrity of European sites within, close to or connected to the district has a bearing on core strategy principles.

E1.3 This report identifies:

- European sites within proximity to the assessment area;
- European sites unlikely to suffer significant effects of the Draft Core Strategy;
- European sites likely to be effected by the policies of the Draft Core Strategy;
- Policies that will not lead to likely significant effects upon European sites;
- In-combination assessment of policies and their interaction with other plans and programmes;
- Assessment of the likely significant effects of Stratford-on-Avon District Draft Core Strategy policies upon European sites; and
- Appropriate avoidance and mitigation measures.

E2 Scope

E2.1 The following European sites were identified using a 20km area of search around Stratford District including sites which are potentially connected (e.g. hydrologically):

- Bredon Hill SAC;
- Dixton Wood SAC;
- Fens Pools SAC;
- Lyppard Grange Ponds SAC;

- Oxford Meadows SAC;
- Severn Estuary SAC;
- Severn Estuary SPA;
- Severn Estuary Ramsar; and
- Wye Valley SAC.

E3 Findings

E3.1 Of the nine European sites identified, four were screened out. Assessment of their vulnerabilities coupled with absence of obvious links (e.g. hydrologically) by which impacts could be transferred, distance from Stratford-on-Avon District and small size are all reasons for this conclusion. The screened out sites are as follows:

- Bredon Hill SAC;
- Dixon Wood SAC;
- Fens Pools SAC; and
- Oxford Meadows SAC.

E3.2 The five sites where potential significant effects could not be ruled out due to uncertainties in regards to impacts from a **water resources** and **water quality** perspective. These sites include:

- Lyppard Grange Ponds SAC;
- Severn Estuary SAC;
- Severn Estuary SPA;
- Severn Estuary Ramsar; and
- River Wye SAC.

E3.3 The initial screening assessment identified that the following policies can be screened out as having no likely significant effects upon European sites:

- **Policy CS1:** Sustainable Development;
- **Policy CS2:** Climate Change and Sustainable Energy;
- **Policy CS3:** Safeguarding the Water Environment;
- **Policy CS4:** Managing Waste;
- **Policy CS5:** Minerals;
- **Policy CS6:** Green Belt;
- **Policy CS7:** Areas of Restraint;
- **Policy CS8:** Cotswolds AONB;
- **Policy CS9:** Vale of Evesham Control Zone;
- **Policy CS10:** Landscape;
- **Policy CS11:** Natural Features;
- **Policy CS12:** Heritage Assets;
- **Policy CS13:** Green Infrastructure;
- **Policy CS14:** Earlswood Lakes Country Park;

- **Policy CS15:** Design and Distinctiveness;
- **Policy CS17:** Affordable Housing;
- **Policy CS18:** Protection and Adaptation of the Existing Housing Stock;
- **Policy CS19:** Specialised Accommodation;
- **Policy CS20:** Housing Mix and Type;
- **Policy CS21:** Provision for Gypsies, Travellers and Travelling Showpeople;
- **Policy CS25:** Countryside and Villages;
- **Policy CS27:** Community Facilities; and
- **Policy CS29:** Infrastructure for Growth and Developer Contributions.

E3.4 Six policies were assessed in further detail to explore potential significant effects upon the integrity of European sites. These policies were as follows:

- **Policy CS16:** Spatial Distribution of Development;
- **Policy CS22:** Economic Development;
- **Policy CS23:** Retail Development – Town and Local Centres;
- **Policy CS24:** Tourism Development;
- **Policy CS26:** Large Rural Brownfield Sites; and
- **Policy CS28:** Transport and Communication.

E3.5 Besides these six policies the following area policy profiles were appraised:

- **APP1:** Stratford-upon-Avon;
- **APP2:** Alcester;
- **APP3:** Bidford-on-Avon;
- **APP4:** Henley-in-Arden;
- **APP5:** Kineton;
- **APP6:** Shipston-on-Stour
- **APP7:** Southam;
- **APP8:** Studley and Mappleborough Green; and
- **APP9:** Wellesbourne.

E3.6 Analysis of effects associated with water quality and supply confirms no adverse effects from the six policies and nine area policy profiles. Recommendations from the 2012 WCS have been advocated and are supported in this report. Efficiency measures are essential in order to meet water supply levels and management regime changes are required at ten waste water treatment works (WwTW).

E3.7 The HRA process will be applied to the next stage of plan making as the Core Strategy progresses. Consultation with Natural England will be undertaken during summer 2012.

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1 Introduction

1.1 Purpose of the Report

- 1.1.1 Lepus Consulting on behalf of Stratford-on-Avon District Council has prepared an initial screening report for Habitats Regulations Assessment (HRA) of the Stratford-on-Avon District third Draft Core Strategy (February, 2012). The initial screening assessment focuses on the likely significant effects of the Core Strategy on the nature conservation interests of European-protected areas within 20km or connected to the Stratford-on-Avon District. It seeks to establish whether or not there could be any adverse effects on the ecological integrity of these European sites as a result of proposals in the plan. This initial screening assessment is designed to act as an early warning system that identifies any potential HRA issues at this early stage which could arise as a result of the proposals within the Core Strategy.
- 1.1.2 The application of HRA to land-use plans is a requirement of the Conservation of Habitats and Species Regulations 2010, the UK's transposition of European Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora (the Habitats Directive). HRA must be applied to all Local Development Documents in England and Wales.
- 1.1.3 The HRA process aims to assess the potential effects of a land-use plan against the conservation objectives of any sites designated for their importance to nature conservation. They form a system of internationally important sites throughout Europe and are known collectively as the 'Natura 2000 network'.
- 1.1.4 European sites provide valuable ecological infrastructure for the protection of rare endangered or vulnerable natural habitats and species of exceptional importance within the EU. These sites consist of Special Areas of Conservation (SAC) designated under the Habitats Directives and Special Protection Areas (SPA) designated under European Directive 2009/147/EC on the conservation of wild birds (the Birds Directive). Additionally Government policy requires that sites designated under the Ramsar Convention (The Convention on Wetlands of International Importance, especially as Waterfowl Habitat) are treated as if they are fully designated European sites for the purpose of considering development proposals that may affect them.
- 1.1.5 Under Regulation 102 of the Habitats Regulations, the assessment must determine whether or not a plan will adversely affect the integrity of the European sites concerned. The process is characterised by the precautionary principle. The European Commission (EC) describes the principle as follows:

"If a preliminary scientific evaluation shows that there are reasonable grounds for concern that a particular activity might lead to damaging effects on the

environment, or on human, animal or plant health, which would be inconsistent with protection normally afforded to these within the European Community, the Precautionary Principle is triggered.”

- 1.1.6 Decision-makers then have to determine what action/s to take. They should take account of the potential consequences of no action, the uncertainties inherent in scientific evaluation, and should consult interested parties on the possible ways of managing the risk. Measures should be proportionate to the level of risk, and to the desired level of protection. They should be provisional in nature pending the availability of more reliable scientific data.
- 1.1.7 Action is then undertaken to obtain further information, enabling a more objective assessment of the risk. The measures taken to manage the risk should be maintained so long as scientific information remains inconclusive and the risk is unacceptable.
- 1.1.8 The hierarchy of intervention is important: where significant effects are likely or uncertain, plan makers must firstly seek to avoid the effect through for example, a change of policy. If this is not possible, mitigation measures should be explored to remove or reduce the significant effect. If neither avoidance, nor subsequently, mitigation is possible, alternatives to the plan should be considered. Such alternatives should explore ways of achieving the plan’s objectives that do not adversely affect European sites.
- 1.1.9 If no suitable alternatives exist, plan-makers must demonstrate under the conditions of Regulation 103 of the Habitats Regulations, that there are Imperative Reasons of Overriding Public Interest (IROPI) to continue with the proposal. This is widely perceived as an undesirable position and should be avoided if at all possible.

1.2 What is the Stratford-on-Avon Core Strategy

- 1.2.1 The Core Strategy is the key document within the Stratford-on-Avon District LDF. It is the first and most important document in the LDF. It will set out the long-term spatial vision and strategy for Stratford-on-Avon district and identify which broad areas are suitable for housing, employment and other strategic development needs.

1.3 About Stratford-on-Avon

- 1.3.1 The district of Stratford-on-Avon covers an area of 979 square kilometres of rural south Warwickshire. Amongst the largest of England’s lowland districts, it is one of the five Warwickshire districts and boroughs which lie within the West Midlands. The district’s population of 118,900 is split between the main settlement of Stratford-upon-Avon (which has a population of 26,150), important rural centres of the district such as Alcester, Shipston-on-Stour and Southam, and approximately 250 further communities of various sizes.

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- 1.3.2 The district enjoys a distinctive settlement hierarchy from Stratford-upon-Avon to the market towns and beyond into the many picturesque villages and hamlets. It also has a strong rural character which is reflected by vernacular building styles and clearly demarcated field patterns. The Landscape includes features such as ridge and furrow, old and young hedgerows and undulating landscapes with relief features gently carved by the various water courses, which flow across the area. Much of the north of the district lies within the West Midland Green Belt, and the Cotswolds AONB extends into the southern fringes of the district. Central to its distinctive character, Stratford-on-Avon has a rich historic environment and cultural heritage resource, reflected by the 76 conservation areas, 3,332 listed buildings and 84 scheduled monuments located in the district. The historic and cultural legacies of the district's past, combined with the attractive rural landscapes are important economic drivers, to tourism and the visitor economy.
- 1.3.3 The character and natural environment of Stratford-on-Avon is distinguished by the many rivers and canals which flow through the district. These include the Rivers Avon and its tributaries, the Alne, Arrow, Dene, Itchen and Stour, as well as the Grand Union, Oxford and Stratford-upon-Avon canals. The River Avon and its tributaries present a significant challenge in flood management terms, as highlighted by the floods of July 2007.
- 1.3.4 The district has a rich biodiversity resource, reflected by various statutory and non-statutory nature conservation designations, including 39 SSSIs. The various biodiversity assets in the district are also recognised and prioritised by the Warwickshire, Coventry and Solihull Local Biodiversity Action Plan (2007), which includes 26 species action plans and 24 habitat action plans.
- 1.3.5 Residents of Stratford-on-Avon generally have favourable levels of health, are highly skilled and enjoy a good quality of life. This however masks a number of socio-economic challenges for the district, including an ageing population, issues surrounding the affordability of housing, significant out-commuting for employment purposes and difficulties surrounding access and service provision in rural areas.

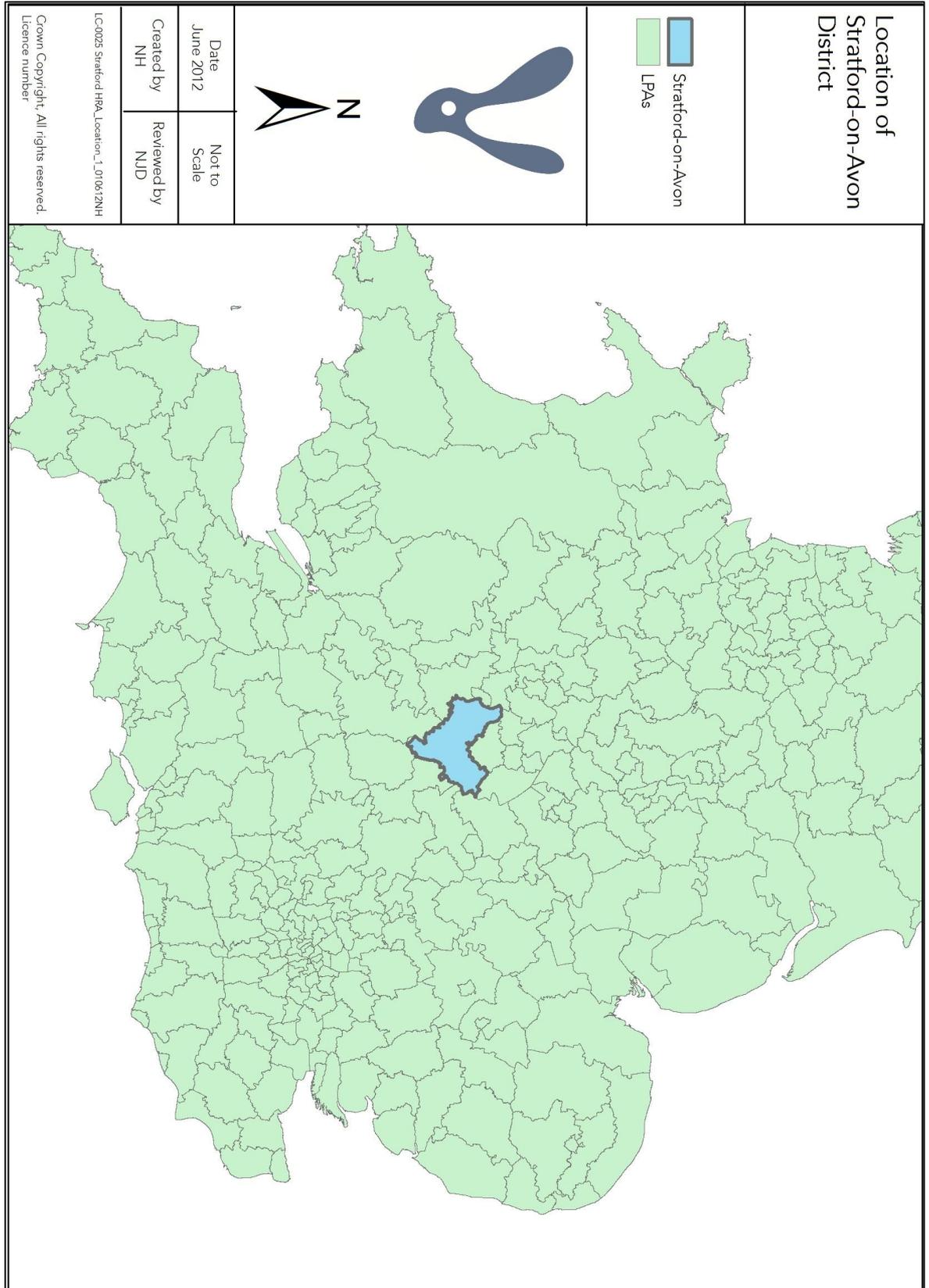


Figure 1.1: Location of Stratford-on-Avon District

2 About the Core Strategy

2.1 About the Stratford-on-Avon Core Strategy 2012

2.1.1 This HRA has assessed the third Draft Core Strategy (February, 2012) Significant work has been undertaken on the Core Strategy since 2007. Two previous versions of the Core Strategy were prepared in the context of growth requirements set out through the Regional Spatial Strategy (RSS). These previous versions included the Draft Core Strategy, 2008, and Consultation Core Strategy, 2010. Following the Government’s Localism agenda and proposed abolition of Regional Planning Stratford-on-Avon District Council has taken the opportunity to revisit their requirements and aspirations for future development within the district. This is reflected in the third Draft Core Strategy (February, 2012).

2.1.2 The third Draft Core Strategy (2012) includes 29 policies and 9 area policy profile policies. Policies are split into one of 7 overarching policy themes. These, and those which have been subject to this initial HRA Screening Assessment, are shown in **Table 2.1**. A key aspect of the Core Strategy is the preferred option of a wider dispersal pattern of development within the District.

Table 2.1: Core Strategy Policies (February, 2012)

Core Strategy Policy Options
Sustainability Framework
CS. 1: Sustainable Development
Resources
CS 2: Climate Change and Sustainable Energy
CS 3: Safeguarding the Water Environment
CS 4: Managing Waste
CS 5: Minerals
District Designations
CS 6: Green Belt
CS 7: Areas of Restraint
CS 8: Cotswolds Area of Outstanding Natural Beauty
CS 9: Vale of Evesham Control Zone
District Assets
CS 10: Landscape
CS 11: Natural Features
CS 12: Heritage Assets
CS 13: Green Infrastructure

CS 14: Earlswood Lakes Country Parks
CS 15: Design and Distinctiveness
Spatial Strategy
CS 16: Distribution of Development
CS 17: Affordable Housing
CS 18: Protection of Housing Stock
CS 19: Specialised Accommodation
CS 20: Housing Mix and Type
CS 21: Provision for Gypsies, Travellers, and Travelling Show People
CS 22: Economic Development
CS 23: Retail Development and Town and Local Centres
CS 24: Tourism Development
Area Policy Profiles
10.1: Stratford-upon-Avon
10.2: Alcester
10.3: Bidford-on-Avon
10.4: Henley-in-Arden
10.5: Kineton
10.6: Shipston-on-Stour
10.7: Southam
10.8: Studley
10.9: Wellesbourne
CS 25: Countryside and Villages
CS 26: Large Rural Brownfield Sites
Infrastructure
CS 27: Community Facilities and Open Space
CS 28: Transport and Communication
CS 29: Infrastructure for Growth - Developer Contributions

2.2 Previous HRA work relevant to this Assessment

2.2.1 HRA work conducted for the West Midland RSS provides useful background information with regard to potential effects on European sites. The RSS Phase 1 Revision HRA (2008) identified European sites that could be vulnerable to a range of impacts including, loss of supporting habitat, reductions in water quality, disturbance from noise and lighting, increased visitor pressure, reduced water quantity and increases in air pollution. Impacts that were identified were subject to an appropriate assessment in order to investigate these further. Water quality and quantity impacts warranted further investigation in relation to the Severn Estuary in addition to recommended water cycle studies.

2.2.2 The West Midland RSS Phase 2 Revision HRA identified changes in diffuse air pollution, changes in local air quality, changes in water quality and quantity, and disturbance from recreation and tourism as leading to likely significant impacts on European sites. The impacts identified were in relation to housing growth proposed through the RSS. During the Appropriate Assessment recommended actions were proposed in order to address identified potential impacts. However, uncertainty surrounding water quality and quantity required further investigation which culminated in a report by Treweek (2009) which failed to rule out adverse effects on the Severn Estuary. Treweek (2009) concluded that to avoid adverse effects on the Severn Estuary relating to water quantity:

- A precautionary policy until the results of the Review of Consents & Water Framework Directive (WFD)/ Restoring Sustainable Abstraction Sensitivity Analysis can be made available to the statutory nature conservation bodies.
- A requirement for Local Authorities to engage in early consultation with Water Companies and the Environment Agency concerning site allocations to ensure development is located in WRZs where there is surplus water available after the required sustainability reductions have been implemented. Mandatory water cycle studies would demonstrate this.
- A commitment to be enshrined in the LDFs that development must be conditional on assured water supplies from sources that would not have an adverse effect on European sites.
- Continuing support of the water conservation and efficiency measures set in policy SR3 of the draft RSS.

2.2.3 Treweek (2009) concluded that to avoid issues relating to water quality the RSS should:

- Require water cycle studies to be mandatory for all areas where likely significant effects on a European site are possible and these should include a Surface Water Management Plans.
- Require local authorities to link delivery of housing with review of the capacity of STWs and the sewerage network, and plan improvements to these as necessary to ensure that water quality at European Sites is not compromised. Those Local

authorities with European Sites that could be at risk need to adopt a precautionary approach to development and must test plan alternatives.

- Reinforce the need for more detailed assessment at a local level and include a policy allowing a lower housing allocation where it is the only effective mitigation to ensure no adverse effect on the integrity of European sites

2.2.4 Although the West Midland RSS has been abandoned, the numerous reports and HRA works that have been undertaken provide a good basis in order to understand issues and impacts that have arisen and are still relevant for this HRA.

2.2.5 At a local level, the Stratford-on-Avon Core Strategy (2010) was subject to HRA. This study was prepared by Levett-Therivel and was released in March 2010. The assessment concluded that the Core Strategy (2010) on its own would not have any adverse impacts on the integrity of any European sites. However, in combination with other plans facilitating development within the West Midlands and South West, the Core Strategy (2010) could have significant adverse impacts on European site integrity. The assessment identified possible water abstraction issues affecting Lyppard Grange Ponds SAC, Severn Estuary SAC, SPA, and Ramsar, and the River Wye SAC. Water Quality issues were identified for the Severn Estuary SAC, SPA, and Ramsar.

2.2.6 The Core Strategy (2010) HRA set out recommendations to address water quantity and water quality. These included:

Addressing Water Quantity

- Wait until further studies by Severn Trent provide greater certainty as to headroom capacity; and/or
- Hold discussions with the Environment Agency and Severn Trent Water regarding possible headroom for abstraction; and/or
- Require new development to be water neutral: to produce all of its water through e.g rainwater collection and greywater recycling or reduce offsite water use to offset water used on site.
- Make any development conditional on assured water supplies from sources that would not have adverse effects on Natura 2000 sites.

Addressing Water Quality

- Do not permit more housing at Kineton until Severn Trent completes its AMP5 works at Kineton WwTW;
- Ensure no more than 112 new homes are built in Wellesbourne WwTW catchment until Severn Trent Water carries out its AMP6 works at Wellesbourne WwTW;
- If more than 381 new homes are built in the Itchen Bank WwTW catchment, make additional development dependant on the provision of additional capacity at the WwTW;

- Hold discussions with the Environment Agency and Severn Trent Water regarding possible headroom for wastewater treatment;
- Consider allocation strategic development sites where WWtWs have sufficient capacity; and
- Liaise with Severn Trent Water about any other significant development proposals, including those affecting smaller WWtWs to ensure capacity is adequate.

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3 Methodology

3.1 Guidance and Best Practice

- 3.1.1 Guidance on HRA has been published in draft form by the Government (DCLG, 2006) and Natural England in conjunction with David Tyldesley Associates (Local Development Plan Documents under the Provisions of the Habitats Regulations, 2009); both draw in part on European Union guidance (European Commission, 2001) regarding the methodology for undertaking Appropriate Assessment (AA) of plans.
- 3.1.2 The guidance recognises that there is no statutory method for undertaking HRA and that the adopted method must be appropriate to its purpose under the Habitats Directive and Regulations; this concept is one of the reasons why HRA is also often referred to as Appropriate Assessment.
- 3.1.3 Due to a moratorium on the publication of new guidance as issued by the Government, the draft guidance may not be published. As an alternative Natural England has been suggested that the guidance on HRA "Guidance for Plan-Making Bodies in Scotland" (2010) published by Scottish Natural Heritage (SNH), prepared by David Tyldesley and Associates, can be used to assess the development of plans.
- 3.1.4 Local authorities are required by the Habitats regulations to undertake AA of a plan where the said plan results in impacts upon a European (Natura 2000) site (as described in 1.3.3). The procedure referred to by the guidance is that of "Habitats Regulations Appraisal which encompasses the requirements of Article 6(3) of the Habitats Directive. The term Habitats Regulations Appraisal is used to encompass the decision on whether the plan should be subject to appraisal, the 'screening' process for determining whether an AA is required as well as any AA that may be required (SNH & DTA, 2010)

3.2 Habitats Regulations Methodology

- 3.2.1 The HRA process follows the methodology prepared by David Tyldesley Associates for Scottish Natural Heritage (2010) (SNH & DTA, 2010) as described in **Table 3.1**. A step-by-step methodology is outlined in the guidance and has been summarised below in **Figure 3.1**.

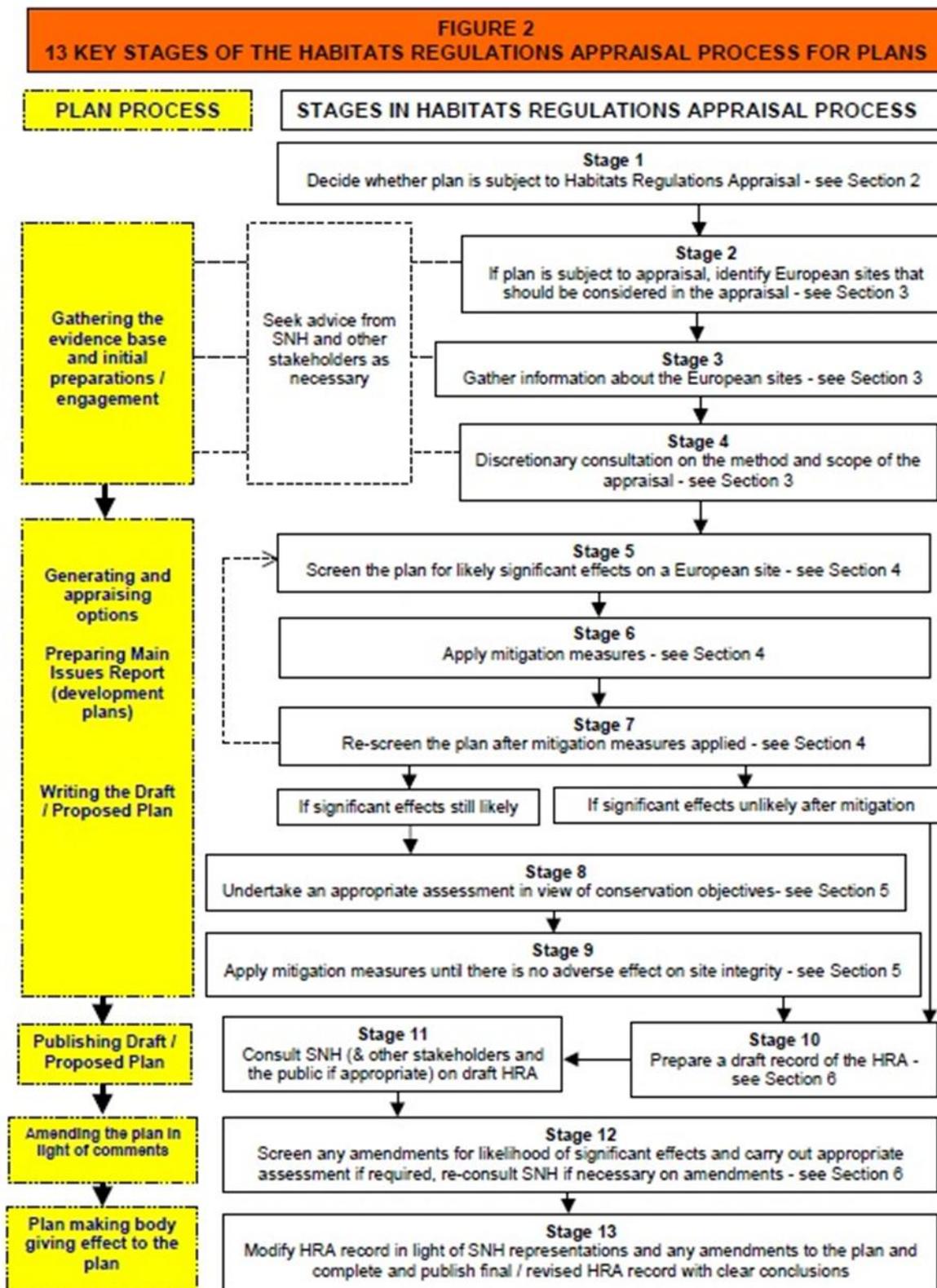


Figure 3.1: The 13 Key Stages of the Habitats Regulations Appraisal Process (SNH & DTA, 2010)

3.2.2 These stages can be split into four broad groups for ease of assessment, they have been clarified below:

Table 3.1: Stages of HRA (SNH & DTA, 2010)

Group	HRA Stages
A. Determination of Need and Compilation of Evidence Base	Stage 1: Determination of need
	Stage 2: Identification of European sites that should be considered in the appraisal
	Stage 3: Gathering information on European sites
	Stage 4: Discretionary discussions on the method and scope of the appraisal
B. Screen all aspects of strategy (Screening)	Stage 5: Screening the strategy
	Stage 6: Applying mitigation measures at screening stage to avoid likely significant effects
	Stage 7: Rescreen the strategy and decide on the need for appropriate assessment
C. Appropriate Assessment (AA)	Stage 8: The AA – site integrity, conservation objectives and the precautionary principle
	Stage 9: Amending the strategy until there would be no adverse effects on site integrity
D. Consultation of Draft	Stage 10: Preparing a draft of HRA
	Stage 11: Consultation
	Stage 12: Proposed modifications
	Stage 13: Modifying and completing HRA

3.3 Dealing with Uncertainty

3.3.1 The assessment can be affected by uncertainty which an effect the assessment in a number of ways, some of these are addressed in **Table 3.2**.

Table 3.2: Dealing with Uncertainty (Natural England, Draft 2009)

Regulatory Uncertainty
Some plans will include references to proposals that are planned and implemented through other planning and regulatory regimes, for example, trunk road or motorway improvements. These will be included because they have important implications for spatial planning, but they are not proposals of the LPA, nor are they proposals brought forward by the plan itself. Their potential effects will be assessed through other procedures. The LPA may not be able to assess the effects of these proposals. Indeed, it may be inappropriate for them to do so, and would also result in unnecessary duplication.
There is a need to focus the Habitat Regulations Assessment on the proposals directly promoted by the plan, and not all and every proposal for development and change, especially where these are planned and regulated through other statutory procedures which will be subject to a Habitat Regulations Assessment.
Planning Hierarchy Uncertainty
The higher the level of a plan in the hierarchy the more general and strategic will be its provisions

and therefore the more uncertain its effects will be. The protective regime of the Directive is intended to operate at differing levels. In some circumstances assessment 'down the line' will be more effective in assessing the potential effects of a proposal on a particular site and protecting its integrity. However, three tests should be applied.

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

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

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

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

It may be helpful for the Habitat Regulations Assessment of the higher tier plan... to indicate what further assessment may be necessary in the lower tier plan.

Implementation Uncertainty

In order to clarify the approach where there is uncertainty because effects depend on how the plan is implemented, and to ensure compliance with the Regulations, it may be appropriate to impose a caveat in relevant policies, or introduce a free-standing policy, which says that any development project that could have an adverse effect on the integrity of a European site will not be in accordance with the plan.

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

4 Determination of Need

4.1 Methodology

4.1.1 The first stage of the appraisal process is to establish whether the Core Strategy should be subject to the Habitats Regulations Assessment process. **Figure 4.1** illustrates the steps that are required to determine whether a plan should be subject to appraisal.

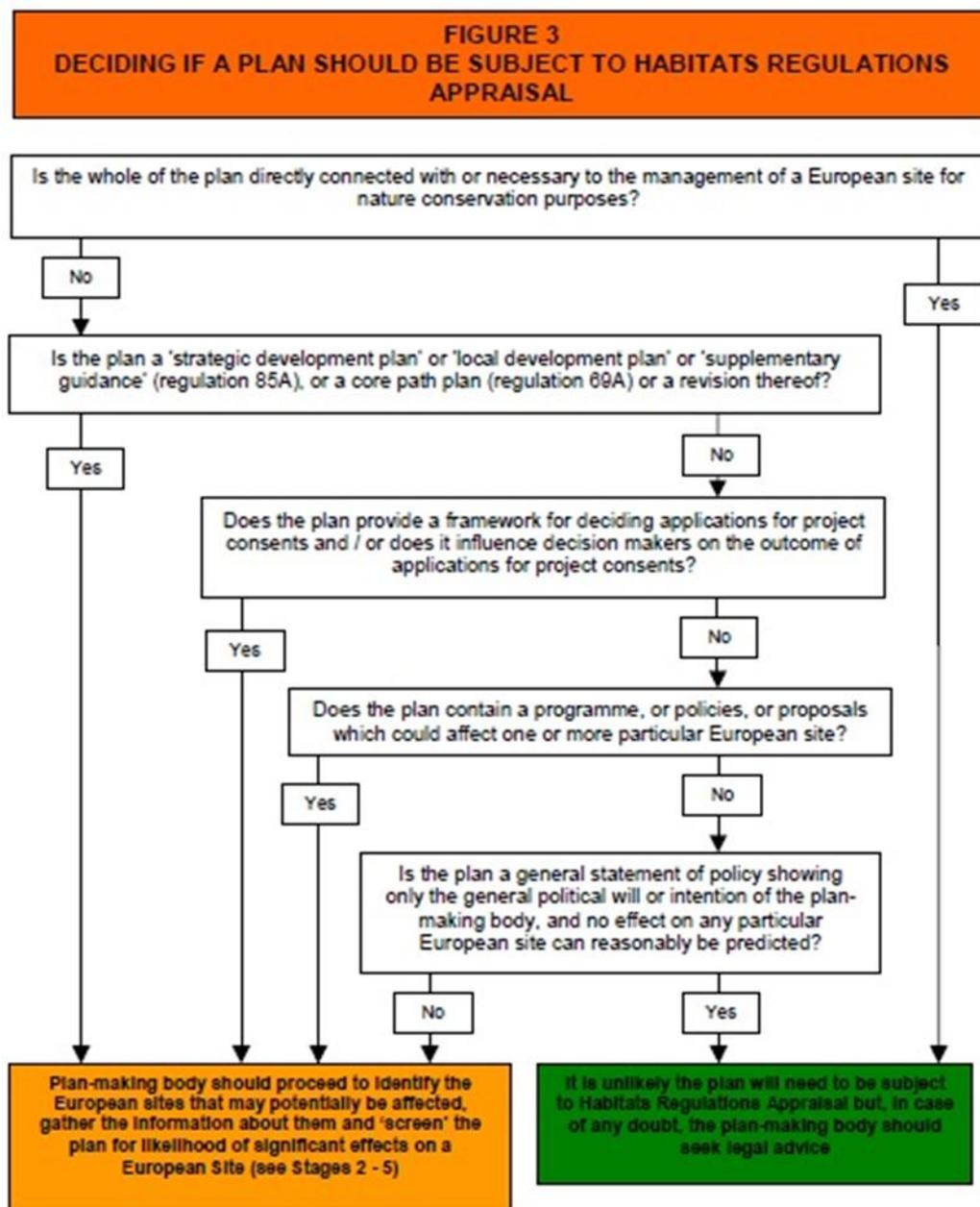


Figure 4.1: Determining if a plan should be subject to a Habitats Regulations Appraisal (SNH & DTA, 2010)

- 4.1.2 As it is not possible to provide a comprehensive list of plans which must always be subject to appraisal the European Court of Justice has interpreted what is meant by plan or project:

"...the Directive does not circumscribe the scope of either 'plan' or 'project' by reference to particular categories of either. Instead, the key limiting factor is whether or not they are likely to have a significant effect on a site."

- 4.1.3 The Core Strategy has been identified as a '**local development plan**' and is therefore subject to Habitats Regulations Assessment.

- 4.1.4 It is recognised that the HRA process may be undertaken at the same time as other assessment processes associated with the preparation of DPDs including Sustainability Appraisal (SA) and Strategic Environmental Assessment (SEA). It should be noted however that they are distinct and separate processes with their own legislative drivers. The SA/SEA process is being undertaken and documented separately.

5 European Sites

5.1 Scope

- 5.1.1 Each site of European importance has its own intrinsic qualities, besides the habitats or species for which it has been designated, that enables the site to support the ecosystems that it does. An important aspect of this is that the ecological integrity of each site can be vulnerable to change from natural and human induced activities in the surrounding environment. For example, sites can be affected by land use plans in a number of different ways, including the direct land take of new development, the type of use the land will be put to (for example, an extractive or noise emitting use), the pollution a development generates and the resources uses (during construction and operation for instance).
- 5.1.2 An intrinsic quality of any European site is its functionality at the landscape ecology scale. This refers to how the site interacts with the zone of influence of its immediate surroundings, as well as the wider area. This is particularly the case where there is potential for developments resulting from the plan to generate water or air-borne pollutants, use water resources or otherwise affect water levels. Adverse effects may also occur via impacts to mobile species occurring outside of a designated site but which are qualifying features of the site. For example, there may be effects on protected birds that use land outside the designated site for foraging, feeding, roosting or loafing.
- 5.1.3 As a starting point, to explore and identify where European sites occur which might be affected by the Core Strategy (2012), a 20km area of search has been applied. The guidance (SNH & DTA, 2010) specifies no specific size of search area. The inclusion of a specific search area was to facilitate the use of the following list of criteria for identification of European sites.

Table 5.1: Criteria for identification of European sites (SNH & DTA, 2010)

Selection of European Sites	
Criteria	European Sites to check
All plans	Sites within the plan area, including those for the criteria listed below
For plans that could affect the aquatic environment	Sites upstream of downstream of the plan area in case of river or estuary
	Peatland and other wetland sites with relevant hydrological links to land within the plan area, irrespective of distance from the plan area
For plans that could affect mobile species	Sites which have significant ecological links with land in the plan area, for example, land in the plan area may be used by migratory birds, which also use a SPA, outside the plan area, at different times of year
For plans that could increase	Such European sites in the plan area

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

5.2 Ecological Information

5.2.1 For a comprehensive summary of each European site within the search area, please refer to **Appendix A**. The information is drawn from the Joint Nature Conservancy Council (JNCC) and Natural England (NE). Information has been categorised on the following basis:

- Location: Local authority area, easting and northing or National Grid Reference, and area (ha);
- Coincident Sites: Other nationally and internationally designated sites which overlap with the site of interest;
- Broad Habitat Class: The extent of key habitats covering the site;
- Qualifying Features: Each sites qualifying features of (that is, the reasons for which the sites were designated);
- Ecological Description: Description of the site including features of note;
- Conservation Objective: Natural England is in the process of setting out conservation objectives for all SACs and SPAs, and progress towards achieving these objectives can be taken as an indicator of favourable condition at each European site. Ramsar sites do not have agreed conservation objectives, but in the majority of instances overlap with SPA site boundaries. However, it should

be noted that Ramsar qualifying features include a range of habitats and non-bird species common to SAC designations, as well as bird species and assemblages and their supporting habitats, which are common to SPAs;

- Condition, Status and Trends: The condition of ecological or environmental features of the site, where known. Please note, this often relates to condition assessments for Sites of Special Scientific Interest, which does not necessarily fully reflect the conservation status of a European site; and
- Key Vulnerabilities and Environmental Conditions: The distinctive characteristics that make each site potentially vulnerable to a variety of impact inducing activities.

5.2.2 Applying this area of search, nine European sites were identified as being either within the plan area, within the area of search or within close proximity to the area of search and have the potential to fulfil the above criteria, which could potentially be affected by the Core Strategy.

Table 5.2: European sites within the vicinity or connected to Stratford District

Site Name	Location	Designation
Bredon Hill	Within 20km area of search	SAC
Dixton Wood	Within 20km area of search	SAC
Lyppard Grange Ponds	Within 20km area of search	SAC
Fens Pools	Outside 20km area of search	SAC
Oxford Meadows	Outside 20km area of search	SAC
Severn Estuary	Outside 20km area of search	SAC
Severn Estuary	Outside 20km area of search	SPA
Severn Estuary	Outside 20km area of search	Ramsar
River Wye	Outside 20km area of search	SAC

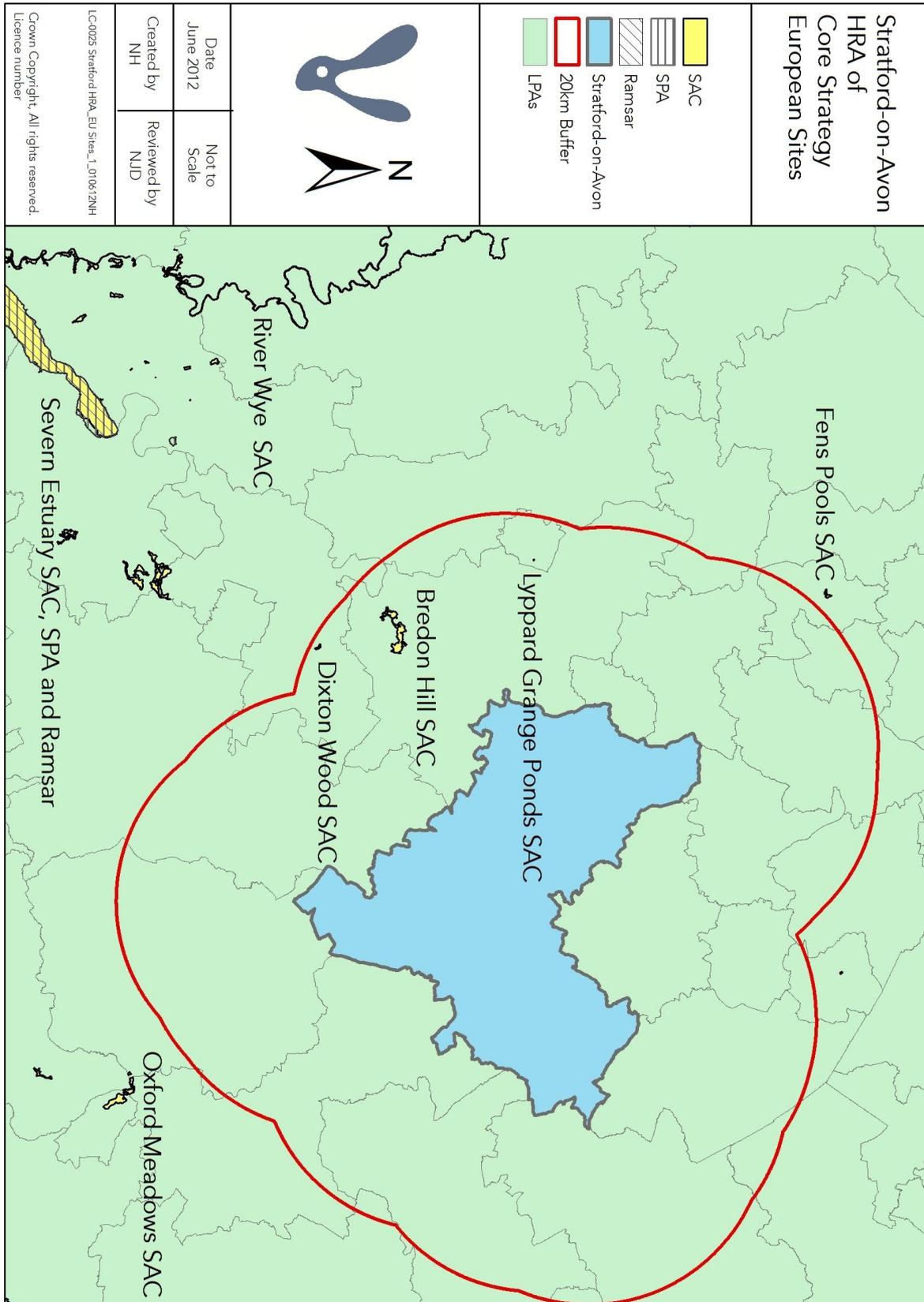


Figure 5.1: Location of European sites within proximity to Stratford-on-Avon District

5.3 Site Vulnerabilities

5.3.1 European sites within 20km have been identified to determine likely significant effects of the Core Strategy. The vulnerabilities of the sites have been identified and collated into **Table 5.3** to assist in determining likely effects. Original data was sourced from the JNCC and Natural England.

Table 5.3: Identified vulnerabilities of European sites

Site Name	Designation	Site Vulnerability
Bredon Hill	SAC	<ul style="list-style-type: none"> • Site Management; and • Lack of tree replacement
Dixton Woods	SAC	<ul style="list-style-type: none"> • Game management practises; • Lack of replacement pollards (management); and • Poor age structure of trees.
Lyppard Grange Ponds	SAC	<ul style="list-style-type: none"> • Recreational pressures; • Invasive species; • Fish populations; • Direct land take; • Water quantity and quality; and • Appropriate management.
Fens Pools	SAC	<ul style="list-style-type: none"> • Maintenance of supporting terrestrial habitat outside of designated area; • Recreational disturbance; • Limited number of suitable breeding ponds; • Runoff from urban surroundings effecting water quality; • Management of surrounding trees; and • Invasive fish species.
Oxford Meadows	SAC	<ul style="list-style-type: none"> • Critically dependent upon ground water levels and annual flooding; • Changes to groundwater and; • Dependent upon traditional management practices (grazing and hay cutting).
Severn Estuary	SAC	<ul style="list-style-type: none"> • Non-designated supporting habitat; • Recreational pressures and disturbance; • Water quality and quantity; and • Invasive/non-native species.
Severn Estuary	SPA	<ul style="list-style-type: none"> • Recreational pressures and disturbance; • Agriculture runoff, sewage discharges and industrial pollution; • Water abstraction; and • Large scale anthropogenic activities

		including land reclamation, aggregate extraction and flood defences.
Severn Estuary	Ramsar	<ul style="list-style-type: none"> • Dredging activities; • Erosion; and • Recreation and disturbance.
River Wye	SAC	<ul style="list-style-type: none"> • Water quality from agricultural impacts; point source discharges and sewage; • Water resources through increased abstraction demand; • Recreational activities and disturbance; and • Changes in land-use practices.

5.4 Sites Screened Out

5.4.1 None of the sites were within the district itself with three sites identified within the 20km area of search with a further six identified outside of the area of search or connected via impact pathways. Relevant site information was collated in **Appendix A** including site condition and vulnerabilities. Site vulnerabilities are displayed in **Table 5.3** to assist in the determination of which sites necessitate further assessment due to potential impacts of the Stratford-on-Avon Core Strategy.

5.4.2 The following European sites have been screened out from further assessment:

Bredon Hill SAC

5.4.3 Bredon Hill SAC is an area of pasture woodland and ancient parkland. It is an important site for fauna associated with decaying timber on ancient trees, including several Red Data Book and Nationally Scarce invertebrate species. The site is designated for its lowland grassland, parkland and broadleaved, mixed and yew woodland. Additionally the site is designated for Violet-click beetle (*Limoniscus violaceus*). The sites vulnerabilities were identified as relating to site management and the composition of the site in regards to tree age structure. The Core Strategy should in all likelihood result in no significant effect upon this European site.

Dixton Wood SAC

5.4.4 Dixton Wood is an area of broadleaved woodland (formerly partially grazed) with a dominance of ash including exceptionally large ancient pollards. The site like Bredon Hill is designated for its populations of Violet-click beetle (*Limoniscus violaceus*). Site vulnerabilities include problem game management practices and non-sympathetic management of the site in regards to pollard replacement. As a result of this it is unlikely that the Core Strategy will result in significant effects upon this European site.

Oxford Meadows SAC

5.4.5 Oxford Meadows represents lowland hay meadows in the Thames Valley. The site includes vegetation communities that are perhaps unique in the world in reflecting the influence of long-term grazing and hay-cutting on lowland hay meadows. The site has benefited from the survival of traditional management, which has been undertaken for several centuries, and so exhibits good conservation of structure and function. The site is vulnerable to ground water levels and annual flooding from the adjacent Seacourt Stream and river Thames as it flows through Oxford. This site is not located within the same river basin and water catchment as Stratford-on-Avon District, therefore is not hydrologically connected. As a result of this it is unlikely that the Core Strategy will result in impacts upon this European site.

Fens Pools SAC

5.4.6 Fens Pools SAC comprises three canal feeder reservoirs and a series of smaller pools. The site shows evidence of past industrial activities and includes a wide range of habitats from open water, swamp, fen and inundation communities to unimproved neutral and acidic grassland and scrub. Great crested newts (*Triturus cristatus*) occur as part of an important amphibian assemblage. The site has a number of vulnerabilities including dependency on non-designated supporting habitat, recreational disturbance, limited number of suitable breeding ponds, runoff from urban surroundings effecting water quality and site management. It is unlikely that recreational issues and disturbance will be exacerbated due to the sites distance from the Stratford-on-Avon district. Additionally in regards to water quality, the site is upstream of the district with water quality impacts unlikely to impact the site. The site is unlikely to be directly impacted by any policies within the Core Strategy and as such has been discounted from further assessment.

5.4.7 Lyppard Grange Pools Sac, River Wye SAC and Sever Estuary SAC, SPA and Ramsar sites cannot be screened out at this stage and will require further assessment.

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6 Screening: Initial Appraisal

6.1 Introduction

6.1.1 Screening is a term used to describe the initial stages of the Habitats Regulations Assessment. The term is not used in the EC Habitats Directive or the Habitats Regulations. The purpose of screening is identify the aspects of the Core Strategy (2012) where it is not possible to rule out the risk of significant effects on a European site, providing a clear scope for the aspects of the strategy which will require appropriate assessment. The purpose of the screening stage is to:

- Identify all aspects of the plan which would not be likely to have a significant effect on a European site, either alone or in combination with other aspects of the same plan or other plans/projects, to eliminate them from further consideration; and
- Identify the aspects of the plan where it is not possible to rule out the risk of significant effects on a European site, and thereby provide a clear scope for the parts of the plan that will require 'appropriate assessment'.

6.1.2 The screening process is sub-divided into three key stages:

- **Stage 1:** Screening out general policy statements;
- **Stage 2:** Screening out projects referred to in, but not proposed by, the plan;
- **Stage 3:** Screening out aspects of a plan that could have no likely significant effect on the site, alone or in combination with other aspects of the same plan, or with other plans or projects.

6.2 Likely Significant Effects

6.2.1 The plan and its component policies are assessed to determine and identify any potential for 'likely significant effect' upon European sites. The guidance (SNH & DTA, 2010) provides the following interpretation.

- "A likely effect is one which cannot be ruled out on the basis of objective information. This is in regards to the 'likelihood' of effects rather than a 'certainty' of effects"
- "Where a plan or project could undermine the site's conservation objectives, the effects on the site must be considered significant. The assessment of that risk must be made in the light, amongst other things, of the characteristics and specific environmental conditions of the site concerned."

6.3 Screening Stage 1

6.3.1 This section aims to assess and screens out general policy statements from the LP(A). These include policies which are no more than general statements of policy or general political aspirations can be screened out of the appraisal because they are unlikely to have a significant effect on site.

6.4 Screening Stage 2

6.4.1 Stage 2 focuses on screening out any projects referred to in, but not proposed by the plan. This includes but may not be limited to major infrastructure projects; roads, motorways and bridges, major transmission lines including gas and oil pipelines. The guidance (SNH & DTA, 2010) provides a useful test:

“Is the project provided for / proposed as part of another plan or programme, by another competent authority, and would it be likely to proceed under the other plan or programme irrespective of whether this plan is adopted?”

6.4.2 If the answer to the above is ‘yes’, then it will normally be appropriate to screen the project out at this stage.

6.5 Screening Stage 3

6.5.1 Stage 3 looks to screen out elements of the plan that could potentially have no significant effects on European sites. This stage has been split into five aspects:

- Intended to protect the natural environment, including biodiversity, or to conserve or enhance the natural, built or historic environment, where enhancement measures will not be likely to have any negative effect on a European site;
- Which will not themselves lead to development or other change, e.g. because they relate to design or other qualitative criteria for development or other kinds of change;
- Which make provision for change but which could have no conceivable effect on a European site, because there is no link or pathway between them and the qualifying interests, or any effect would be a positive effect, or would not otherwise undermine the conservation objectives for the site;
- Which make provision for change but which could have no significant effect on a European site, because any potential effects would be trivial, or ‘de minimis’ or so restricted or remote from the site that they would not undermine the conservation objectives for the site;
- For which effects on any particular European site cannot be identified, because the proposal is too general, for example, it is not known where, when or how the proposal may be implemented, or where effects may occur, or which sites, if any, may be affected. These aspects of the plan may also be very similar to or the

same as those screened out under screening step 1, relating to general policy statements.

6.6 Screening Matrix

6.6.1 The following table displays the screened-out policies within the Core Strategy using the criteria provided within the HRA guidance (SNH & DTA, 2010). It provides a link to the relevant policy, the stage of the screening process and the applicable criterion.

Table 6.1: Screening Matrix

Aspects of the plan which would not be likely to have a significant effect on a European site alone		Relevant parts of the plan
Stage 1	General policy statements	<ul style="list-style-type: none"> • CS1 Sustainable Development; • CS15 Design and Distinctiveness; and • CS29 Infrastructure for Growth and Developer Contributions
Stage 2	Projects excluded from the appraisal because they are not proposals generated by the plan	N/A
Stage 3	Stage 3a Policies which protect the natural environment, including biodiversity, or conserve or enhance the natural, built or historic environment	<ul style="list-style-type: none"> • CS2 Climate Change and Sustainable Energy; • CS3 Safeguarding the Water Environment; • CS5 Minerals; • CS6 Green Belt; • CS7 Areas of Restraint; • CS8 Cotswolds AONB; • CS10 Landscape; • CS11 Natural Features; • CS12 Heritage Assets; • CS13 Green Infrastructure; • CS14 Earlswood Lakes Country Park; and • CS27 Community Facilities
	Stage 3b Policies which will not lead to development or other change	<ul style="list-style-type: none"> • CS5 Minerals; • CS9 Vale of Evesham Control Zone; • CS17 Affordable Housing • CS18 Protection and Adaptation of the Existing Housing Stock; • CS19 Specialised Accommodation; • CS20 Housing Mix and Type; and • CS25: Countryside and Villages.

	Stage 3c	Aspects of the plan which make provision for change but which could have no conceivable effect on European sites, because there is no link or pathway between them and the qualifying interests, or any effect would be a positive effect or would not otherwise undermine the conservation objectives for the site	<ul style="list-style-type: none"> CS14 Earlswood Lakes Country Park;
	Stage 3d	Aspects of the plan which make provision for change but which could have no significant effect on a European site, because any potential effects would be trivial, or 'de minimis' or so restricted that they would not undermine the conservation objectives for the site	<ul style="list-style-type: none"> CS4 Managing Waste; CS21 Provision for Gypsies, Travellers and Travelling Showpeople
	Stage 3e	Aspects which are too general so that it is not known where, when or how the aspect of the plan may be implemented, or where any potential effects may occur, or which European sites, if any, may be affected	N/A

6.7 Policies Screened Out

Policy CS1: Sustainable Development

- 6.7.1 This policy outlines the district's sustainable development aims in regards to future development. Policy CS1 was assessed as a Stage 1 general policy statement as it outlines general criteria in regards to sustainable development and the strategic aims of the Core Strategy. The information provided by the policy is explained in greater detail in subsequent policies within the document.
- 6.7.2 The policy itself provides no specifics as to development in the district which could result in likely significant effects upon European sites. As the policy functions in a strategic and aspirational manner, it has been **screened out** at this stage.

Policy CS2: Climate Change and Sustainable Energy

- 6.7.3 The focus of this policy refers to climate change and sustainable energy production. It is sub-divided into five categories. The first two focus on climate change in general and criteria outlining adaptation measures for sustainable buildings and promotion of minimum sustainability standards in regards to both residential and commercial buildings through the Code for Sustainable Homes and BREEAM.
- 6.7.4 The final three categories focus on different methods of renewable energy generation which have been deemed suitable within the district and the assessment criteria for the assessment of related proposals. This policy has been assessed as a Stage 3a policy which protects the natural environment, including biodiversity, or conserve or enhance the natural, built or historic environment. This is because the policy outlines criteria and stipulations which outline adaptations, mitigation measures and requirements which limit the impact of new development on the natural environment. Therefore it is unlikely that this policy will result in a likely significant effect upon European sites and has been **screened out** at this stage.

Policy CS3: Safeguarding the Water Environment

- 6.7.5 Policy CS3 outlines criteria to ensure that development proposals take into account the results of the Strategic Flood Risk Assessment and the objectives of the Water Framework Directive. The policy is split into four sub-categories including flooding, surface water and Sustainable Urban Drainage Systems (SUDs) and the protection of the water environment and water quality. This policy has been assessed as a Stage 3a policy which protects the natural environment, including biodiversity, or conserve or enhance the natural, built or historic environment.
- 6.7.6 The policy states that *“development will be permitted where proposals do not have a negative impact on water quality, either directly or indirectly”*, this coupled with the detailed standards set out should ensure that development should not impact upon the water environment, therefore it is unlikely that this policy will result in a likely significant effect upon European sites and has been **screened out** at this stage. It should be noted that no reference is made to water resources/water abstraction. The policy could be strengthened through its inclusion.

6.7.7 Policy CS4: Managing Waste

- 6.7.8 This policy focuses on the development of future waste management facilities. It provides information regarding the design and provision of waste management for the future. The policy has been assessed as Stage 3d “Aspects of the plan which make provision for change but which could have no significant effect on a European site, because any potential effects would be trivial, or ‘de minimis’ or so restricted that they would not undermine the conservation objectives for the site”.

6.7.9 The policy includes a caveat which requires development to ensure that measures are included to protect and enhance ecological assets. As a result it is unlikely that this policy will result in a likely significant effect upon European sites and has been **screened out** at this stage.

Policy CS5: Minerals

6.7.10 Policy CS5 details the use of the districts mineral resources and includes the safeguarding, development and restoration of extraction sites. Eleven sites to be safeguarded from development for the value of their mineral reserves.

6.7.11 This policy has been assessed as both a Stage 3a and b policy as it both protects the natural environment and biodiversity and the policy itself will not lead directly to change/development. It is unlikely that the policy will result in a likely significant effect upon European sites and has been **screened out** at this stage.

Policy CS6: Green Belt

6.7.12 This policy is designed to ensure the integrity of the green belt throughout the district, and ensure its protection from inappropriate development within it. The policy provides a list of criteria for appropriate development which includes small scale infill schemes to meet the needs of local peoples.

6.7.13 The policy has been assessed as a Stage 3a policy as it aims to protect the natural environment, including biodiversity, or conserve or enhance the natural, built or historic environment. Therefore it is unlikely that the policy will result in a likely significant effect upon European sites and has been **screened out**.

Policy CS7: Areas of Restraint

6.7.14 CS7 is a policy to protect the character of settlements and the surrounding countryside by providing areas of restraint which will not harm or threaten its open nature and character from development. Six areas have been proposed by the strategy around Alcester, Bidford-on-Avon, Kineton, Southam, Stratford-upon-Avon and Wellesbourne.

6.7.15 Policy CS7 has been assessed as a Stage 3a policy as its will protect both the natural and built environments. As a result this policy is unlikely to result in an adverse effect upon European sites and has been **screened out**.

Policy CS8: Cotswold Area of Outstanding Natural Beauty

6.7.16 Policy CS8 outlines specific criteria to protect and conserve the Cotswold AONB. It aims to ensure that and development proposals are in line with the Cotswold AONB management plan.

6.7.17 The policy will result in the protection/enhancement of both the natural and built environment within the Cotswold AONB and should not result in likely significant effects upon European sites. As a result the policy has been assessed as Stage 3a and has been **screened out**.

Policy CS9: Vale of Evesham Control Zone

6.7.18 This policy is designed to control business related proposals within the Vale of Evesham. Proposals which result in 5% or more Heavy Goods Vehicle (HGV) traffic need to fulfil three criteria, to ensure that the proposal could not be better located or not adversely affect the amenity of local people.

6.7.19 The policy itself will not result in any development and seeks to manage proposals within its catchment. Therefore the policy has been categorised as a Stage 3b policy and has been **screened out**.

Policy CS10: Landscape

6.7.20 Policy CS10 Landscape focuses on landscape character throughout the district. Development should protect landscape character and avoid detrimental effects on features which make significant contributions. The policy also focuses on visual impacts and effects upon natural features such as woodland and hedgerows.

6.7.21 This policy has been assessed as Stage 3a as it aims to protect the natural environment, including biodiversity; as such it has been **screened out** at this stage.

Policy CS11: Natural Features

6.7.22 This policy aims to protect Stratford-on-Avon's distinctive and historic landscape and ensure that development respects its character and individual features. The policy is split into two distinct sections biological and geological. The policy specifically references the protection of existing international designations in accordance with the Habitats Directive.

6.7.23 As such the policy has been categorised under Stage 3a as it aims to protect the natural environment, including biodiversity; as such it has been **screened out** at this stage

Policy CS12: Heritage Assets

6.7.24 This policy aims to protect and enhance the heritage assets found within the Stratford-on-Avon District. The policy is split into two sections Preservation and Enhancement and Management and Interpretation. The first aims to preserve and enhance heritage features including listed buildings, Scheduled Monuments, Historic Parks and Gardens, Conservation Areas and to preserve the character and local distinctiveness through sympathetic design of new developments. The second section outlines the principles of appropriate management for the district's special features.

6.7.25 The policy has been assessed as Stage 3a as it aims to protect the natural environment, including biodiversity, or conserve or enhance the natural, built or historic environment. As a result Policy CS12 has been **screened out** at this stage.

Policy CS13: Green Infrastructure

6.7.26 The aim of this policy is to protect and enhance the green infrastructure (GI) features of the district in order to secure a wide range of environmental, economic, and social benefits. This is to be achieved through the principles of protection, enhancement, restoration and creation of GI, improving access to GI features and through the protection of existing open spaces.

6.7.27 The policy has been assessed as a Stage 3a policy as it aims to protect, conserve and enhance the natural environment, including biodiversity. As a result of this it has been **screened out**.

Policy CS14: Earlswood Lakes Country Park

6.7.28 Policy CS14 outlines the creation of a new Country Park based on Earlswood Lakes, Clowes Wood and New Fallings Coppice. The policy has been assessed as Stage 3c as aspects of the plan make provision for change but could have no conceivable effect on European sites, because there is no link or pathway between them and the qualifying interests, or any effect would be a positive effect or would not otherwise undermine the conservation objectives for the site.

6.7.29 The policy could also fall into Stage 3a as it will protect, conserve and enhance the natural environment, including biodiversity. As a result of this it has been **screened out**.

Policy CS15: Design and Distinctiveness

6.7.30 Policy CS15 seeks to ensure future development conforms to a high standard of design which promotes the distinctiveness and enhances the appearance of the Stratford-on-Avon district. The policy has been assessed as a Stage 1 policy as it forms a general policy statement and has been **screened out**.

Policy CS17: Affordable Housing

6.7.31 This policy will help meet future requirement for affordable housing in Stratford-on-Avon and the main rural centres as identified in SDC Development Viability Assessment (DVA) (2009) and the Strategic Housing Market Assessment (SHMA): Market Review (2009). The policy has been assessed as a Stage 3b policy as it itself will not lead to development or other change impacting upon a European site. As a result of this it has been **screened out**.

Policy CS18: Protection and Adaptation of Existing Housing Stock

- 6.7.32 This policy aims to protect and adapt the existing housing stock within the Stratford-on-Avon district. This policy focuses upon the management and protection of existing dwellings as valuable resource and aims to limit the loss to this resource through change of use.
- 6.7.33 The policy has been assessed as a Stage 3b policy as it itself will not lead to development or change which could result in likely significant effects upon European sites. Therefore the policy has been **screened out**.

Policy CS19: Specialised Accommodation

- 6.7.34 This policy aims to provide specialised accommodation which caters to the needs of older and vulnerable people. The current trends of aging population throughout the UK will result in increased pressure upon care housing and health facilities. The policy outlines criteria which must be met before development proposals can proceed.
- 6.7.35 Policy CS19 has been assessed as a Stage 3b policy as the policy itself will not lead to develop and instead seeks to encourage provision which fulfil the supporting criteria. This policy has been **screened out** at this stage.

Policy CS20: Housing Mix and Type

- 6.7.36 3.6.14 The Stratford-upon-Avon SHMA and the District Council Housing Provision Options Study 2011 identifies increased requirement for smaller dwellings within the district. The policy identifies that housing needs to be accessible (which links to the policy on Affordable Housing) and should be able to support the changing needs of households. For example, ensuring that the developments conform to Lifetime Homes Standards (LHS), which seeks to enable the general needs that housing should provide.
- 6.7.37 The policy is a criterion based policy which seeks to direct an aspect of future housing provision in regards fulfilling the needs of the district. The policy has been assessed as Stage 3b and as such will result in no direct development which could impact a European site. The policy has been **screened out**.

Policy CS21: Provision for Gypsies, Travellers and Travelling Show-people

- 6.7.38 The SDC Gypsy and Traveller Needs Assessment (2011) concluded that there was little requirement at present for the increased provision of Gypsy and Traveller sites. However, the policy will provide additional permanent and temporary pitches with a five yearly increase for the planned period (until 2028).

6.7.39 The policy has been assessed as Stage 3d as aspects of the plan which make provision for change but which could have no significant effect on a European site, because any potential effects would be trivial, or 'de minimis' or so restricted that they would not undermine the conservation objectives for the site. The policy is criteria based with point VIII stating that "*The development and use of the site will not have adverse impacts on the landscape, biodiversity or the built environment*". As a result of this the policy should result in no likely significant effects upon European sites and as such has been **screened out**.

Policies CS25: Countryside and Villages

6.7.40 This policy focuses on maintaining the balance of rural communities in regards to local community and economy. The policy seeks to guide development in the community, residential, business and tourism and leisure areas.

6.7.41 The policy has been assessed as a Stage 3b policy as it is a criteria based policy which will not result in direct development. Additionally amongst the policy principles is a caveat which states that "*undue harm would not be caused to the character of the local landscape, communities and important environmental assets*". As a result the policy has been **screened out** at this stage.

Policy CS27: Community Facilities

6.7.42 Policy CS 27 focuses on the provision of community infrastructure such as sport, leisure and health-care and type of open space per 1000 people. The policy describes criteria for the retention of existing community infrastructure and sets out the details for the provision of new community infrastructure dependent upon the size, function and needs of the individual settlement in accordance with the spatial and scale hierarchy set out in Policy CS 16 (Distribution of Development).

6.7.43 The policy has been assessed as Stage 3a as the policy will protect, conserve and enhance the natural environment, including biodiversity through provision of suitable community facilities and spaces. Therefore the policy is unlikely to result in a potential effect upon the integrity of European sites and has been **screened out**.

6.7.44 **Policy CS29: Infrastructure for Growth – Developer Contributions**

6.7.45 This policy refers to the delivery of strategic infrastructure and community facilities necessary to accommodate growth. To facilitate this, a Community Infrastructure Levy (CIL) has been introduced. This levy covers a wide range of development types and is based on the cumulative effect of the development. The levy is used in order to finance social infrastructure in general. This policy has been assessed as a general policy statement and as such should result in no likely significant effects upon European sites and has been **screened out**.

6.8 Consideration of in combination Test

- 6.8.1 The Habitats Directive states that an AA of a plan should be undertaken if it would have a likely significant effect upon a European site either individually or “in combination with other plans or projects”. It identifies that the effects of a single plan on its own could result in unlikely or insignificant impacts and recognises that other plans within the same geographical area or linked in a relevant way can result in a cumulative effect.
- 6.8.2 The elements of the plan assessed to cause no likely significant effect and therefore screened out should be assessed in combination to consider any possible cumulative significant effect. The guidance (SNH & DTA, 2010) prescribes “Any element of the plan that itself would not have a significant effect on a European site alone, should be screened for the likelihood of combined effects arising from other aspects of the same plan, or any other plans or projects”.
- 6.8.3 The test for in-combination effects should include a variety of other plans and projects which are being prepared or implemented in the area which may impact on the integrity of European sites. These plans and projects can include Core Strategies, Local Plans and their relevant Development Plan Documents and Local Transport Plans.
- 6.8.4 The plans listed should be considered for likely effects in combination with LP(A) policies screened out, to assess for cumulative effects. It should be noted that in some instances new plans are being developed or updated and may be subject to change from those listed. Potential plans for in-combination testing are as follows:
- Black Country Core Strategy 2011;
 - Birmingham Unitary Development Plan 2005;
 - Birmingham Core Strategy (not yet adopted);
 - Bromsgrove District Core Strategy (not yet adopted)
 - Cheltenham Borough Council Joint Core Strategy (Not yet adopted)
 - Gloucester City Council (Joint Core Strategy (Not yet adopted)
 - Malvern Hills District Council Joint Core Strategy (not yet adopted)
 - Redditch Borough Council Core Strategy (Not yet adopted)
 - Stroud District Council Core Strategy (Not yet adopted)
 - Tewkesbury Borough Council Joint Core Strategy (not yet adopted)
 - Worcester City Council Joint Core Strategy (not yet adopted)
 - Wychavon District Council Joint Core Strategy (not yet adopted)
 - Wyre Forest District Council Core Strategy (2010)

Table 6.2: In-combination matrix of Stratford Draft Core Strategy 2012 policies

In Combination	
Policy CS1: Sustainable Development	
Policy CS2: Climate Change and Sustainable Energy	
Policy CS3: Safeguarding the Water Environment	
Policy CS4: Managing Waste	
Policy CS5: Minerals	
Policy CS6: Green Belt	
Policy CS7: Areas of Restraint	
Policy CS8: Cotswold Area of Outstanding Natural Beauty	
Policy CS9: Vale of Evesham Control Zone	
Policy CS10: Landscape	
Policy CS11: Natural Features	
Policy CS12: Heritage Assets	
Policy CS13: Green Infrastructure	
Policy CS14: Earlswood Lakes Country Parks	
Policy CS15: Design and Distinctiveness	
Policy CS16: Distribution of Development	
Policy CS17: Affordable Housing	
Policy CS18: Housing Type and Mix	
Policy CS19: Specialised Accommodation	
Policy CS20: Housing Type and mix	
Policy CS21: Provision for Gypsies, Travellers and Travelling Showpeople	
Policy CS22: Economic Development	
Policy CS23: Retail Development and Town and Local Centres	
Policy CS24: Tourism Development	
AP10.1: Stratford-upon-Avon	
AP10.2: Alcester	
AP10.3: Bidford-on-Avon	
AP10.4: Hemley-in-Arden	
AP10.5: Kineton	
AP10.6: Shipston-on-Stour	
AP10.7: Southam	
AP10.8: Studley	
AP10.9: Wellesbourne	
Policy CS25: Countryside and Villages	
Policy CS26: Large Rural Brownfield Sites	
Policy CS27: Community Facilities	
Policy CS28: Transport and Communication	
Policy Cs29: Infrastructure for Growth – Developer Contributions	

- 6.8.5 Policies within the Core Strategy can have a cumulative 'in-combination' effect with each other. These impacts together can result in likely significant effects upon the integrity of European sites. Those policies which have been screened out will create no in-combination effects. This is because screened out policies can result in no likely significant effects upon European sites. Therefore cannot combine to result in cumulative in-combination effects (for example $5 \times 0 = 0$).
- 6.8.6 Possible in combination effects can occur between those policies which have not been screened out from further assessment, these include:
- CS16: Distribution of Development;
 - CS22: Economic Development;
 - CS23: Retail Development and Town and Local Centres;
 - CS24: Tourism Development;
 - AP10.1: Stratford-upon-Avon;
 - AP10.2: Alcester
 - AP10.3: Bidford-on-Avon
 - AP10.4: Hemley-in-Arden
 - AP10.5: Kineton
 - AP10.6: Shipston-on-Stour
 - AP10.7: Southam
 - AP10.8: Studley
 - AP10.9: Wellesbourne
 - CS26: Large Rural Brownfield Sites; and
 - CS28: Transport and Communication.
- 6.8.7 The above in-combination screening test cannot be expected to include the possible effects of plans and projects not yet applied for or published for consultation, this also includes main issues reports prepared for other development plans.
- 6.8.8 The in-combination test of adjacent land-use plans has resulted in a number of potential in-combination impacts and uncertain effects in regards to the effects of the Draft Core Strategy policies at this time.
- 6.8.9 In combination can include a variety of potential impacts upon European sites. The above policies which could potentially result in an in-combination effect could result in adverse impacts relating to the following features:
- Water Quality;
 - Water Resources;
- 6.8.10 These impacts relate to the identified site vulnerabilities as discussed in Chapter 7 Potential Impacts. These in-combination effects will be investigated further during detailed individual policy assessment in Chapter 8 Policy Assessment.

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7 Screening: Further Assessment

7.1 Introduction

7.1.1 This Chapter presents a commentary on the potential impact pathways associated with the core strategy policies stage. Having screened all the policies, two issues have been identified for further analysis at this stage: water resources and water quality.

7.2 Water Resources

Background Information and Studies

7.2.1 According to the Severn Trent Water (STW) Resource Management Plan (2010) Stratford upon Avon is located within the Severn Water Resource Zone, referred to as WRZ3. WRZ3 has been identified as an area which is forecast to suffer a supply demand shortfall for the entire WRMP period (2010-2035) and will require intervention measures to ensure supply meets demand. A small area of the north western part of the district lies within WRZ4 – Birmingham.

7.2.2 The Severn Trent Water Resource Management Plan (2010) sets out Severn Trent Water's approach to ensure water supply meets demand for WRZ3. This comprises demand management initiatives and new ground water sources. The WRMP covers the period 2010-2035 and forecasts water consumption will reach around 132 litres per person per day by 2030.

7.2.3 The Water Resource Management Plan (2010) sets out STW's Strategy for addressing forecasted shortfalls in water availability for the plan period. These include:

- Maximising the sustainable use of existing resources and strategic links;
- Use aquifer storage and recovery to utilise spare resource and treatment capacity during times of low demand;
- Provide some modest new ground water resources;
- Continue to significantly reduce leakages over the plan period; and
- Carry out measures to help ensure customers become more water efficient and reduce their demand for resources.

7.2.4 It is anticipated that STW Strategy outlined within their management plan and the measures to reduce water demand and enhance water efficiency will ensure that headroom surplus remains for the entire plan period until 2035.

- 7.2.5 Future development within Stratford-on-Avon has the potential, in combination with development in the Severn WRZ3, to increase demand for water resources. This has the potential to lead to adverse impacts on European sites vulnerable to changes in river flows and water levels. These include Lyppard Grange Ponds SAC, Severn Estuary sites and the River Wye SAC. The Severn Trent Water Resource Management plan sets out a strategy to ensure sufficient headroom capacity remains for the plan period. Development in Stratford-on-Avon is dependent on these measures in order to avoid adverse in-combination impacts on European sites.
- 7.2.6 The Water Cycle Study (Halcrow, 2010) identified a number of potential issues within Stratford-on-Avon District. A supply-demand deficit has been identified within the study indicating that at current usage demand for water will outstrip current supply. While it is possible that supply could be increased, this may impact upon the water environment through decreased groundwater levels and reduced flow within watercourses. Increases in abstraction levels could impact European sites which are vulnerable to issues relating to water. All water companies, in this case Severn-Trent Water, have a responsibility to ensure that their actions in managing water resources in their catchments do not adversely affect the integrity of European sites.
- 7.2.7 The WCS (2010) suggests that LPAs should ensure sustainable water use and the implementation of water efficiency measures, including both new and existing housing stock. As a minimum all new development should conform to Code for Sustainable Homes (CfSH) level 3-4 with aspirations to achieve CfSH level 5-6. This should be coupled with water sustainability and efficiency measures to lead to reduction in general demand across housing stock. This could be achieved through universal water metering, water accounting, fixing leaks in infrastructure to reduce loss, a system audit for accurate analysis of available resources and use, more accurate pricing structures to penalise high users and reward efficient users.
- 7.2.8 In 2012, Stratford on Avon District Council, commissioned a further WCS so that the findings of the 2010 research could be updated. In particular the 2012 study explored water quality and supply issues relating to the possibility that Core Strategy growth might take place across a wide range of villages in the district.
- 7.2.9 In the case of water supply issues, the WCS confirms that in conjunction with the STW Water Resource Management Plan's commitment to a water efficiency plan, STW can provide the requisite water supply levels for the plan period. The WCS states that, "Through a series of demand management measures and improvement of existing resources (which have been approved at a strategic level by the Environment Agency and Natural England), STW is predicting a supply surplus of available water in 2035 within the WRZs located within Stratford-on-Avon District which would provide sufficient water to supply the levels of growth within the district through the plan period".

7.2.10 The efficiency measures can be achieved via various means. These include retrofitting existing housing stock with water meters, designing new homes to high sustainability standards e.g. CSH 4 and above, water management measures as part of development and master planned initiatives. To this end, the WCS (2012) explores how water neutrality might be achieved under different scenarios. Similarly it explores the range of options to manage and use water in more efficient ways during the plan period (WRMP ends 2035).

Conclusions

7.2.11 Drawing on findings in the Water Cycle Study (WCS, 2012) and (2010) it is concluded that water resources will not result in likely significant effects at the identified European sites provided the following actions are implemented in-line with the 'low scenario' outlined in the WCS (2012). These include:

- Uptake of retrofitting water efficiency measures (10%);
- Provision of a relatively small funding pool and a partnership working not moving too far beyond business as usual' for stakeholders; and,
- Local policy within the LDF on restriction of water use (policy wording is suggested in the WCS).

7.2.12 The water neutrality percentage achieved by these measures is 63% and requires a relatively small scale level of funding and partnership working, and adoption of new local policy which is likely to be easily justified and straightforward for developers to implement. It is considered that it is technically and politically straightforward to obtain this level with a small funded joint partnership approach and with new developers contributing standard, but water efficient homes, with relatively low capital expenditure.

7.3 Water Quality and Wastewater

Background Information and Studies

7.3.1 Stratford-on-Avon District lies within the Severn River Basin and the Warwickshire Avon Catchment. The River Basin Management Plan for the Severn River Basin District was published in 2009 by the Environment Agency.

7.3.2 Overall within the River Severn river basin 29% of surface waters are at good or better ecological status, with only 16% of water in poor condition and a further 2% classified as bad. The river basin is under a number of pressures which effect ecological status. These include inputs from agricultural practises, urban runoff, point source sewage, physical modifications through urbanisation, land drainage, flood protection and water storage and supply.

7.3.3 The Warwickshire Avon catchment includes the River Avon and its various tributaries. Water is abstracted primarily for public water supply, agriculture and industry. Water quality in the headwaters of the main tributaries is generally good. Elsewhere water quality problems are due to a mixture of the impact of sewage discharges, diffuse (urban and Agricultural) run off leading to nutrient enrichment and other pollution.

Table 7.1: Warwickshire Avon Catchment Key Statistics

Water Bodies	Now	2015
At good ecological status or potential	11%	11%
Assessed at good or high biological status (75 water bodies)	35%	40%
Assessed at good chemical status (16 water bodies)	81%	88%
At good status overall (chemical and ecological)	11%	11%
Improving for one or more element in rivers	N/A	9%

7.3.4 There are 91 river water bodies and 3 lakes in the catchment. 8 % of rivers currently achieve good ecological status. 35% of rivers assessed for biology are at least good biological status now. Local actions will address the key pressures in the catchment, 9% of surface waters in the Warwickshire Avon Catchment will improve for at least one ecological element of good status. Despite these improvements, the percentage of water bodies achieving good ecological status will remain the same.

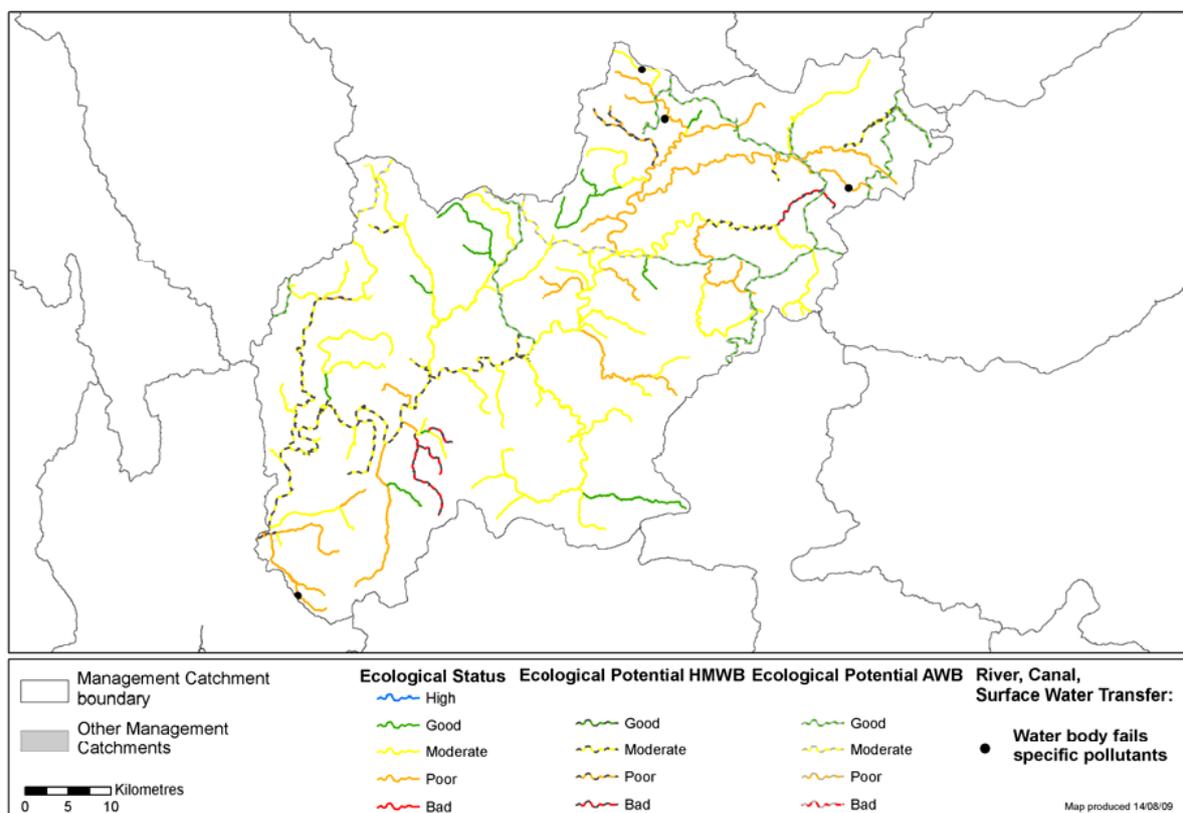


Figure 7.1: Water Quality in the Warwickshire Avon Catchment

- 7.3.5 Development proposed through the Core Strategy (2012) will need to be connected to the waste water treatment network throughout the district. The Water Cycle Study undertaken in 2010 suggested there were capacity issues at a number of WwTW locations including Itchen Bank, Wellesbourne and Kineton. The study was conducted in reference to provide an evidence base for the Stratford-on-Avon Core Strategy (2010) strategic allocations.
- 7.3.6 The study identified that development could lead to an exceedence of WwTW capacity and consequently consented dry weather flows may affect the Severn Estuary.
- 7.3.7 The Water Cycle Study was updated in June 2012 (URS, 2012) to reflect changes to the Core Strategy (2012). This analysed WwTW capacity in response to the Core Strategy (2012) dispersed distribution of development. The study focused on WwTW connections in relation to local service villages. The study identified the local service villages and which WwTW they are serviced by. The study outlines the capacity of each WwTW in relation to future growth.
- 7.3.8 The water cycle study (2012) identified the following WwTW which would not have sufficient capacity to support planned growth without some form of management intervention.

Table 7.2: WwTW without Consented Headroom (Source URS, 2012)

WwTW without Consented Headroom					
WwTW	Local Service Village	Consent Consented DWF (M ³ /d)	Future 2028 DWF after Growth (M ³ /d)	2026 headroom Capacity	Approximate residual Housing Capacity after Growth (2028)
Bidford-on-Avon	Salford Priors	1,870	1,888	-18	-57
Butlers Marston	Pillerton Priors	120	138	-18	-57
Cherington	Brailes (Upper & Lower)	365	418	-53	-168
Gaydon	Gaydon	110	120	-10	-32
Ilmington	Ilmington	210	213	-3	-9
Long Compton	Long Compton	165	171	-6	-19
Napton	Napton on the Hill	197	201	-4	-13
Priors Marston	Priors Marston	152	152	-18	-57
Tysoe	Tysoe (Upper & Middle)	181	202	-21	-67
Wellesbourne	Hampton Lucy	1,559	1,567	-8	-25

- 7.3.9 Each WwTW identified in **Table 7.2** was subject to water quality modelling to assess whether the quality consents needed in order to meet WFD objectives would be achievable. The outcome of water quality modelling suggested all but Bidford-on-Avon WwTW would require upgrades to ensure WFD objectives were met. It was found that upgrades would have phasing implications but that Core Strategy housing numbers can be delivered on this basis.
- 7.3.10 In terms of WwTW capacity during the plan period, all ten WwTW cited in **Table 7.2** require intervention to overcome headroom deficiency, such that effects of water deterioration are avoided. The WCS (2012) concluded that this can be achieved within the limits of conventional treatment.

Conclusions

- 7.3.11 The review of European site vulnerabilities and background information identified that there is potential for the Stratford-on-Avon Core Strategy (2012) to lead to adverse impacts on European sites from water quality perspectives.
- 7.3.12 The updated Water Cycle Study (2012) outlines two recommendations in order to address WwTW capacity problems and ultimately potential water quality issues. These include:

WW1-Development Phasing

“Development in Salford Priors, Pillerton Priors, Brailes (Upper and Lower), Tysoe (upper and Middle) and priors Marston will need to be restricted to a minimal annual completion rate to be agreed with Seven Trent Water and Environment Agency until new a new solution is in place post 2015, as there is insufficient headroom to accommodate future growth.”

WW2-Development and Sewage Network

“Development at sites indicated in the WCS (Amber) to have potentially limited sewer network capacity should be subject to a pre-development enquiry with STW (or TW where necessary) to determine upgrades needed prior to planning permission being granted”.

- 7.3.13 The Stratford-on-Avon Core Strategy (2012) includes a policy on water, Policy CS 3: Safeguarding the Water Environment. The policy includes provision which will ensure water quality is not adversely impacted by development. The text includes:

“Development will be permitted where proposals do not have a negative impact on water quality, either directly through pollution of surface or ground water, or indirectly through the overloading of Waste Water Treatment Works. Prior to any potential development, consultation must be held with Severn Trent Water. This is to ensure that appropriate wastewater infrastructure is in place in sufficient time, particularly where potential development will depend on.... (WwTW)... where there are known capacity restriction”.

- 7.3.14 Policy CS 3 Safeguarding the Water Environment will ensure that development will not be permitted where there will not be sufficient waste water treatment capacity. It is unlikely that policies within the Core Strategy (2012) relating to development will lead to significant adverse effects on any European site in terms of water quality. The supportive text for Policy CS 3 is sufficient as to avoid adverse impacts.
- 7.3.15 Issues affecting the management of wastewater and subsequent effects associated with water quality have been explored by the WCS (2012). The research findings indicate that planned growth associated with development at village locations in the draft Core Strategy will require changes to the way in which ten WwTW locations presently operate. This is due to headroom capacity being exceeded due to new homes and employment sites.
- 7.3.16 The WCS suggests that measures can be prepared to achieve the necessary infrastructure capacity at each location. These include (i) a change in consents to comply with the Water Framework Directive requirements for no deterioration downstream, and (ii) conventional treatment for the expansion of WwTW capacity such as expanded facilities.
- 7.3.17 Pursuing these will ensure that water quality will not deteriorate to standards below those required by the Water Framework Directive.
- 7.3.18 On this basis, provided the proposed measures are incorporated into the development aspirations advocated by the Core Strategy, it is concluded that the draft policies in the Core Strategy will not adversely affect water quality and consequently have no significant adverse effects on any European site either alone or in combination.

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8 Conclusions

8.1 Introduction

8.1.1 This document sets out the assessment findings in relation to HRA for the third draft of the Stratford-on-Avon District Core Strategy (2012).

8.2 Findings

8.2.1 Of the nine European sites identified, four were screened out at the initial screening phase. Assessment of their vulnerabilities coupled with absence of obvious links (e.g. hydrologically) by which impacts could be transferred, distance from Stratford-on-Avon District and small size are all reasons for this conclusion. The screened out sites are as follows:

- Bredon Hill SAC;
- Dixton Wood SAC;
- Fens Pools SAC; and
- Oxford Meadows SAC.

8.2.2 Five sites where likely significant effects could not be ruled out due to uncertainties in regards to impacts from a water resources and water quality perspective were as follows:

- Lyppard Grange Ponds SAC;
- Severn Estuary SAC;
- Severn Estuary SPA;
- Severn Estuary Ramsar; and
- River Wye SAC.

8.2.3 The detailed screening assessment identified that six policies and all nine area policy profiles could result in a likely significant effect upon the integrity of European sites. The policies assessed to result in potential significant effects are as follows:

- **Policy CS16:** Spatial Distribution of Development;
- **Policy CS22:** Economic Development;
- **Policy CS23:** Retail Development – Town and Local Centres;
- **Policy CS24:** Tourism Development;
- **Policy CS26:** Large Rural Brownfield Sites;
- **Policy CS28:** Transport and Communication;
- **APP1:** Stratford-upon-Avon;
- **APP2:** Alcester;
- **APP3:** Bidford-on-Avon;

- **APP4:** Henley-in-Arden;
- **APP5:** Kineton;
- **APP6:** Shipston-on-Stour
- **APP7:** Southam;
- **APP8:** Studley and Mappleborough Green; and
- **APP9:** Wellesbourne.

8.3 Further Analysis

- 8.3.1 The above policies and issues relating to water quantity and water quality were further analysed in **Chapter 7**. The analysis of water quality issues concluded that Policy CS 3: Natural Water Management contained adequate supportive text which would ensure planning permission would only be granted where it could be demonstrated that there would not be any adverse impacts on water quality. This policy commitment is to deliver the prediction of the 2012 WCS which concludes that the Draft Core Strategy (2012) would be unlikely to lead to any significant adverse impacts relating to water quality so long as appropriate management measures are introduced at ten WwTWs. Phasing of housing growth may also be necessary.
- 8.3.2 The analysis of water quantity issues concluded that water efficiency measures outlined within the STW WRMP and analysed within the WCS (2012) were sufficient to ensure that sufficient headroom levels are maintained throughout the plan period. Efficiency measures are essential. The WCS (2012) offers a suite of options, the details of which may be further incorporated into the Core Strategy or possibly a further design guide.
- 8.3.3 On the basis that (i) WwTWs are upgraded, necessary consents amended and housing numbers are phased, and (ii) efficiency measures are adopted and enforced, the third draft of the Core Strategy will have no significant adverse effects on the integrity of any European site, either alone or in combination. It should be noted that all recommendations proposed in this screening report will require evidencing and also monitoring as the Core Strategy progresses to submission stage and when in operation.

References

Environment Agency (2003) Severn Corridor Catchment Abstraction Management Plan. Available at: <http://www.environment-agency.gov.uk/business/topics/water/119943.aspx>

Environment Agency (2009) Severn Estuary SPA & cSAC Habitats Directive Review of Consents Proforma for Stage 3 Appropriate Assessment

Environment Agency (2009) River Basin Management Plan Severn River Basin District. Available at: <http://www.environment-agency.gov.uk/research/planning/124941.aspx>

European Commission (2000) Communication from the Commission on the Precautionary Principle

European Commission (2001) Assessment of plans and projects significantly affecting Natura 2000 Sites: Methodological Guidance on the Provisions of Article 6(3) and 6(4) of the Habitats Directive. Impacts Assessment Unit, Oxford Brookes University for European Commission Environment DG

Halcrow (2010) Warwickshire Sub-regional Water Cycle Study Stratford-on-Avon District Council Final Report. Available at: <http://www.stratford.gov.uk/files/seealsodocs/10702/Warwickshire%20sub-regional%20Water%20Cycle%20Study%2C%20SDC%20final%20report%20-%20March%202010.pdf>

JNCC (2012) Protected sites. Available at: <http://jncc.defra.gov.uk/page-4>

Levett-Therivel (2010) Habitats regulations Assessment for the Stratford-on-Avon District Consultation Core Strategy. March 2010. Available at: <http://www.stratford.gov.uk/files/seealsodocs/10830/Habitats%20Regulations%20Assessment%20for%20Consultation%20Core%20Strategy%20-%20March%202010.pdf>

Natural England (2012) Nature on the Map and Conservation Objectives.

Scottish Natural Heritage (2010) Habitats Regulations Appraisal of Plans: Guidance for Plan-Making Bodies in Scotland. Prepared by David Tyldesley & Associates

Severn Trent Water Ltd (2010) Severn Trent Water: Water Resource Management Plan Final Version (June 2010) Available at: <http://www.stwater.co.uk/server.php?show=nav.6186>

Stratford-on-Avon District Council (2010) Consultation Core Strategy. Available at: <http://www.stratford.gov.uk/planning/core-strategy-2010.cfm>

Stratford-on-Avon District Council (2012) Draft Core Strategy. Available at: <http://www.stratford.gov.uk/planning/planning-4019.cfm>

Treweek (2009) Impact of Housing Growth on Water Supply and Water Quality at European Sites. Update to information contained within the West Midlands RSS Phase II Revision HRA (April 2009)

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Appendix A European Site Record

Site Characteristics: Bredon Hill SAC			
Location / NGR / Area	Worcestershire	SO965406	359.86ha
Coincident Sites	Bredon Hill SSSI (384.09)		
Broad Habitat Classes	<ul style="list-style-type: none"> • Heath. Scrub. Maquis and garrigue. Phygrana (10%) • Dry grassland. Steppes (10%) • Non-Forest areas cultivated with woody plants (including orchards, groves, vineyards, and (80%) 		
Qualifying Features Reason for Designation	Annex I Habitats Semi-natural dry grasslands and scrub facies on calcareous substrates (<i>festuco-brometalia</i>)		
	Annex II Species Violet click beetle <i>Limoniscus violaceus</i>. Violet click beetle <i>Limoniscus violaceus</i> was recorded at Bredon Hill in 1989, although there is a 1939 record from 'Tewkesbury', which may refer to Bredon Hill. It has been found in each of several years since.		
Ecological Description	Bredon Hill is an area of pasture woodland and ancient parkland. It is a very important site for fauna associated with decaying timber on ancient trees, including many Red Data Book and Nationally Scarce invertebrate species.		
Conservation Objectives	To maintain the following habitats and geological features in favourable condition or restored to favourable condition if features are judged to be unfavourable. <ul style="list-style-type: none"> • Lowland Calcareous Grassland, • Lowland parkland and wood pasture • Broadleaved, Mixed and Yew Woodland 		
Condition Status and Trends	There are 17 component SSSI units of Bredon Hill. Currently 14.64% are in favourable condition whilst 85.36 are unfavourable recovering.		
Key Vulnerabilities & Environmental Conditions Supporting Site Integrity	<ul style="list-style-type: none"> • Lack of replacement generations of trees • Increase in grazing areas • Overall low number of ancient trees 		

Site Characteristics: Dixton Woods SAC			
Location / NGR / Area	Gloucestershire	SO979313	13.14ha
Coincident Sites	Dixton Wood SSSI		
Broad Habitat Classes	Broad-leaved deciduous woodland (100%)		
Qualifying Features Reason for Designation	<p>Annex I Habitats N/A</p> <p>Annex II Species Violet click beetle <i>Limoniscus violaceus</i> Violet click beetle <i>Limoniscus violaceus</i> was discovered at Dixton Wood in 1998 and it has been found at the site on a single occasion subsequently. It is a small site with large number of ancient ash <i>Fraxinus excelsior</i> pollards, and supports a rich fauna of scarce invertebrate species associated with decaying timber on ancient trees.</p>		
Ecological Description	Dixton Wood is an area of broadleaved woodland (formerly partially grazed) with a dominance of ash including exceptionally large ancient pollards.		
Conservation Objectives	To maintain the Broadleaved, mixed and yew woodland at Dixton Wood SSSI in favourable condition, with particular reference to relevant specific designated interest features.		
Condition Status and Trends	There is one SSSI unit at this site which is in an unfavourable recovering status.		
Key Vulnerabilities & Environmental Conditions Supporting Site Integrity	<ul style="list-style-type: none"> • Lack of future replacement pollards. Age class skewed to older generations. • Game management practices. 		

Site Characteristics: Lyppard Grange Ponds			
Location / NGR / Area	Worcestershire	SO879556	1.09ha
Coincident Sites	Lyppard Grange Ponds SSSI		
Broad Habitat Classes	<ul style="list-style-type: none"> Inland water bodies (standing water, running water) (8%) Heath. Scrub. <i>Maquis</i> and <i>garrigue</i>. <i>Phygrana</i> (22%) Improved grassland (70%) 		
Qualifying Features Reason for Designation	Annex I Habitats N/A		
	Annex II Species Great crested newt <i>Triturus cristatus</i> This site, on the outskirts of Worcester, is set amongst a recent housing development on former pastoral farmland. The ponds are associated with good-quality terrestrial habitats, and are a remnant of a formerly more widespread newt habitat when large numbers of ponds were maintained for agricultural purposes.		
Ecological Description	The site is comprised of two ponds surrounded by residential development.		
Conservation Objectives	To maintain the designated habitats in favourable condition for great crested newts, which is defined in part in relation to a balance of habitat extent (extent attribute). To maintain the Great Crested Newt ponds and surrounding land habitat at Lyppard Grange Ponds in favourable condition, with particular reference to relevant specific designated interest features.		
Condition Status and Trends	SAC Water Framework Directive favourable water quality status.		
	There are currently two SSSI units at this site. 91.74% is in a favourable status whilst 8.2% is unfavourable recovering.		
Key Vulnerabilities & Environmental Conditions Supporting Site Integrity	<ul style="list-style-type: none"> Effects of recreational pressures Introduction of invasive fish species Fish populations Direct land take Water quantity and quality issues Appropriate management of supportive habitat for newts. 		

Site Characteristics: Fens Pool SAC			
Location / NGR / Area	Dudley	52 29 48 N; 02 07 04 W	20.4 ha
Coincident Sites	Fens Pools SSSI		
Broad Habitat Classes	<ul style="list-style-type: none"> • Inland water bodies (standing water, running water) (2%) • Bogs, marshes, water fringed vegetation and fens (5%) • Heath, scrub, <i>maquis</i>, <i>garrigue</i> and <i>phygrana</i> (20%) • Dry grassland and steppes (66%) • Other land (including towns, villages, roads, waste places, mines, industrial sites) (7%) 		
Qualifying Features Reason for Designation	Annex I Habitats N/A		
	Annex II Species Great crested newt <i>Triturus cristatus</i> , which occur as a part of an important amphibian assemblage		
Ecological Description	This site comprises three canal feeder reservoirs and a series of smaller pools. They overlies Etruria marls and coal measures of the Carboniferous period. The site shows evidence of past industrial activities and includes a wide range of habitats from open water, swamp, fen and inundation communities to unimproved neutral and acidic grassland and scrub. Great crested newts <i>Triturus cristatus</i> occur as part of an important amphibian assemblage.		
Conservation Objectives	To maintain, in favourable condition, the habitats for the population of: Great crested newts <i>Triturus cristatus</i> : this will require maintenance of adjacent non-breeding habitat, which is not protected or restored to favourable condition if features are judged to be unfavourable.		
Condition Status and Trends	The Water Framework Directive unit condition for the SAC is favourable		
	Fens Pools SSSI (38.41 ha)		
Key Vulnerabilities & Environmental Conditions Supporting Site Integrity	<ul style="list-style-type: none"> • No net loss of protected habitat; • Maintenance of supporting terrestrial habitats outside the protected area; • Limited recreational disturbance; • A sufficient number of ponds suitable for breeding newts; • Good water quality through preventing run-off from the urban surroundings; • Appropriate management of trees which could potentially cause over-shading of ponds; • Prevention of the introduction of invasive, non-native fish. 		

Site Characteristics Oxford Meadows SAC			
Location / NGR / Area	Oxfordshire	SP492090	265.89ha
Coincident Sites	Port Meadows with Wolvercote Common and Green SSSI (168.5ha), Cassington Meadows SSSI (7.03ha)		
Broad Habitat Classes	<ul style="list-style-type: none"> • Humid grassland. Mesophile grassland (87%) • Improved grassland (13%) 		
Qualifying Features Reason for Designation	Annex I Habitats Lowland hay meadows (<i>Alopecurus pratensis</i> , <i>Sanguisorba officinalis</i>)		
	Annex II Species Creeping marshwort <i>Apium repens</i> Oxford Meadows is selected because Port Meadow is the larger of only two known sites in the UK for creeping		
Ecological Description	Together with North Meadow and Clattinger Farm, also in southern England, Oxford Meadows represents lowland hay meadows in the Thames Valley centre of distribution. The site includes vegetation communities that are perhaps unique in the world in reflecting the influence of long-term grazing and hay-cutting on lowland hay meadows. The site has benefited from the survival of traditional management, which has been undertaken for several centuries, and so exhibits good conservation of structure and function.		
Conservation Objectives	To maintain the designated features in favourable condition, which is defined in part in relation to a balance of habitat extents (extent attribute). To maintain the designated species in favourable condition, which is defined in part in relation to their population attributes.		
Condition Status and Trends	SAC Water Framework Directive condition is favourable		
	Port Meadows with Wolvercote Common and Green SSSI has four SSSI units. Currently 98.73% of the site is in Favourable status whilst 1.28% is in unfavourable recovering status.		
	Cassington Meadows SSSI is currently 100% in favourable condition.		
Key Vulnerabilities & Environmental Conditions Supporting Site Integrity	<ul style="list-style-type: none"> • Critically dependant on ground water levels and annual flooding. Very sensitive to changes to groundwater • Component parts dependant on traditional hay cutting and aftermath crazing 		

Site Characteristics: Seven Estuary SAC			
Location / NGR / Area	Vale of Glamorgan; Cardiff; Newport; City of Bristol; Monmouthshire; Gloucestershire; North Somerset; Somerset; South Gloucestershire	ST321748	73,715.4 ha
Coincident Sites	Mendip Limestone Grasslands SAC; River Usk SAC; River Wye SAC; Severn Estuary SPA; Severn Estuary Ramsar; Aust Cliff SSSI; Berrow Dunes SSSI; Blue Anchor to Lilstock Coast SSSI; Brean Down SSSI; Bridgewater Bay SSSI; Middle Hope SSSI; Portishead Pier to Black Nore SSSI; Purton Passage SSSI; Severn Estuary SSSI; Spring Cove Cliffs SSSI; Steep Holm SSSI; Uphill Cliff SSSI; Upper Severn Estuary SSSI		
Broad Habitat Classes	<ul style="list-style-type: none"> Tidal rivers, estuaries, mud flats, sand flats and lagoons (including saltwork basins) (99%) Salt marshes, salt pastures and salt steppes (1%) 		
Qualifying Features Reason for Designation	Annex I Habitats <ul style="list-style-type: none"> Estuaries, for which this is considered one of the best areas in the UK Mudflats and sandflats not covered by seawater at low tide, for which this is considered one of the best areas in the UK Atlantic salt meadows (<i>Glauca-Puccinellietalia maritimae</i>), for which this is considered one of the best areas in the UK Sandbanks which are slightly covered by seawater at all times, for which this is considered one of the best areas in the UK Reefs, for which this estuary is considered to have a significant presence 		
	Annex II Species <ul style="list-style-type: none"> Allis shad <i>Alosa alosa</i>, for which the area is considered to support a significant presence Twaite shad <i>Alosa fallax</i>, for which this is considered one of the best areas in the UK River lamprey <i>Lampetra fluviatilis</i>, for which this is considered one of the best areas in the UK Sea lamprey <i>Petromyzon marinus</i>, for which this is considered one of the best areas in the UK 		
Ecological Description	<p>The Severn Estuary is located between Wales and England in south-west Britain. It is a large estuary with extensive intertidal mud-flats and sand-flats, rocky platforms and islands. Saltmarsh fringes the coast backed by grazing marsh with freshwater ditches and occasional brackish ditches. The seabed is rock and gravel with sub-tidal sandbanks. 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). This tidal regime results in plant and animal communities typical of the extreme physical conditions of liquid mud and tide- swept sand and rock. The species-poor invertebrate community includes high densities of ragworms, lugworms and other invertebrates forming an important food source for passage and wintering waders. A further consequence of the large tidal range is an extensive intertidal zone, one of the largest in the UK.</p>		
Conservation Objectives	<p>To maintain the following habitats and geological features in favourable condition (*):</p> <ul style="list-style-type: none"> Estuaries 		

	<ul style="list-style-type: none"> - Mudflats and sandflats not covered by seawater at low tide - Atlantic salt meadows <i>Glauco-Puccinellietalia maritimae</i> - Sandbanks which are slightly covered by sea water all the time - Reefs <p>To maintain*, in favourable condition, the habitats (including supporting habitats) for the populations of:</p> <ul style="list-style-type: none"> - Allis shad <i>Alosa alosa</i> - Twaite shad <i>Alosa fallax</i> - Sea lamprey <i>Petromyzon marinus</i> - River lamprey <i>Lampetra fluviatilis</i> <p>(*) or restored to favourable condition if features are judged to be unfavourable.</p>
Condition Status and Trends	The Water Framework Directive unit condition for the SAC is favourable
	Aust Cliff SSSI (6.23 ha)
	There are 2 component SSSI units that make up Aust Cliff SSSI. Currently 100% of the total SSSI area is in favourable condition.
	Berrow Dunes SSSI (199.9 ha)
	There are 4 component SSSI units that make up Berrow Dunes SSSI. Currently 100% of the total SSSI area is in unfavourable recovering condition.
	Blue Anchor to Lilstock Coast SSSI (675.1 ha)
	There are 8 component SSSI units that make up Blue Anchor to Lilstock Coast SSSI. Currently 77.28% of the total SSSI area is in favourable condition, and 22.72% is unfavourable recovering.
	Brean Down SSSI (66.19 ha)
There are 4 component SSSI units that make up Brean Down SSSI. Currently 100% of the total SSSI area is in favourable condition.	
Bridgewater Bay SSSI (6237.46 ha)	
There are 30 component SSSI units that make up Bridgewater Bay SSSI. Currently 90.56% of the total SSSI area is in favourable condition, 8.77% is unfavourable recovering, and 0.67% is unfavourable declining.	
Middle Hope SSSI (84.38 ha)	
There are 6 component SSSI units that make up Middle Hope SSSI. Currently 80.4% of the total SSSI area is in favourable	

	condition, and 19.6 is unfavourable recovering.
	Portishead Pier to Black Nore SSSI (64.73 ha) There are 5 component SSSI units that make up Portishead Pier to Black Nore SSSI. Currently 100% of the total SSSI area is in favourable condition.
	Purton Passage SSSI (4.09 ha) There is one component SSSI unit that makes up Purton Passage SSSI. Currently 100% of the total SSSI area is in favourable condition.
	Severn Estuary SSSI (10,001.16 ha) There are 82 component SSSI units that make up Severn Estuary SSSI. Currently 95.74% of the total SSSI area is in favourable condition, 2.42% is unfavourable no change, and 1.84% is unfavourable declining.
	Spring Cove Cliffs SSSI (1.99 ha) There is one component SSSI unit that makes up Spring Cove Cliffs SSSI. Currently 100% of the total SSSI area is in favourable condition.
	Steep Holm SSSI (25.39 ha) There is one component SSSI unit that makes up Steep Holm SSSI. Currently 100% of the total SSSI area is in favourable condition.
	Uphill Cliff SSSI (19.54 ha) There are 3 component SSSI units that make up Uphill Cliff SSSI. Currently 100% of the total SSSI area is in favourable condition.
	Upper Severn Estuary SSSI (1460.45 ha) There are 11 component SSSI units that make up Upper Severn Estuary SSSI. Currently 96.69% of the total SSSI area is in favourable condition, and 3.31% is unfavourable declining.
Key Vulnerabilities & Environmental Conditions Supporting Site Integrity	<ul style="list-style-type: none"> • Maintaining habitat for protected species outside of the protected areas; • Restricting recreational pressure and disturbance; • Maintaining water quality and quantity; • Restricting invasive or non-native species.

Site Characteristics: Seven Estuary SPA			
Location / NGR / Area	Avon; Gloucestershire; Gwent; Somerset; South Glamorgan	51 13 29 N; 03 02 57 W	24,662.98 ha
Coincident Sites	Mendip Limestone Grasslands SAC; River Usk SAC; River Wye SAC; Severn Estuary SAC; Severn Estuary Ramsar; Aust Cliff SSSI; Berrow Dunes SSSI; Blue Anchor to Lilstock Coast SSSI; Brean Down SSSI; Bridgewater Bay SSSI; Middle Hope SSSI; Portishead Pier to Black Nore SSSI; Purton Passage SSSI; Severn Estuary SSSI; Spring Cove Cliffs SSSI; Steep Holm SSSI; Uphill Cliff SSSI; Upper Severn Estuary SSSI		
Broad Habitat Classes	<ul style="list-style-type: none"> • Tidal rivers, estuaries, mud flats, sand flats and lagoons (including saltwork basins) (89%) • Salt marshes, salt pastures and salt steppes (6%) • Coastal sand dunes, sand beaches and machair (4%) • Improved grassland (1%) 		
Qualifying Features Reason for Designation	<p>Article 4.1 Qualification</p> <ul style="list-style-type: none"> • Bewick's Swan <i>Cygnus columbianus bewickii</i> (Western Siberia/North-eastern & North-western Europe), 280 individuals representing at least 3.9% of the wintering population in Great Britain (5 year peak mean 1991/2 - 1995/6) <p>Article 4.2 Qualification</p> <ul style="list-style-type: none"> • Gadwall <i>Anas strepera</i> (North-western Europe) 0.9% of the population (5 year peak mean 1991/92-1995/96) • Greater white-fronted goose <i>Anser albifrons albifrons</i> (North-western Siberia/North-eastern & Northwestern Europe) 0.4% of the population (5 year peak mean 1991/2 - 1995/6) • Dunlin <i>Calidris alpina alpina</i>, 44,624 individuals representing at least 3.3% of the wintering Northern Siberia/Europe/Western Africa population (5 year peak mean 1991/2 - 1995/6) • Redshank <i>Tringa totanus</i>, 2,330 individuals representing at least 1.3% of the wintering Eastern Atlantic - wintering population (5 year peak mean 1991/2 - 1995/6) • Shelduck <i>Tadorna tadorna</i>, 3,330 individuals representing at least 1.1% of the wintering Northwestern Europe population (5 year peak mean 1991/2 - 1995/6) • In the non-breeding season the area regularly supports an internationally important assemblage of 84317 waterfowl (5 year peak mean 01/04/1998) including: • <i>Cygnus columbianus bewickii</i>, <i>Anser albifrons albifrons</i>, <i>Tadorna tadorna</i>, <i>Anas strepera</i>, <i>Calidris alpina alpina</i>, <i>Tringa tetanus</i>. 		
Ecological Description	<p>The Severn Estuary is located between Wales and England in south-west Britain. It is a large estuary with extensive intertidal mud-flats and sand-flats, rocky platforms and islands. Saltmarsh fringes the coast backed by grazing marsh with freshwater ditches and occasional brackish ditches. The seabed is rock and gravel with sub-tidal sandbanks. 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). This tidal regime results in plant and animal communities typical of the extreme physical conditions of liquid mud and tide- swept sand and rock. The species-poor invertebrate community includes high densities of ragworms,</p>		

	lugworms and other invertebrates forming an important food source for passage and wintering waders. A further consequence of the large tidal range is an extensive intertidal zone, one of the largest in the UK. The site is of importance during the spring and autumn migration periods for waders moving up the west coast of Britain, as well as in winter for large numbers of waterbirds, especially swans, ducks and waders.
Conservation Objectives	To maintain*, in favourable condition, the habitats for the populations of Annex 1 species, regularly occurring migratory species of European importance, and the internationally important assemblage of waterfowl, with particular reference to: <ul style="list-style-type: none"> - Bewick's Swan <i>Cygnus columbianus bewickii</i> * maintenance implies restoration if the feature is not currently in favourable condition.
Condition Status and Trends	The Water Framework Directive unit condition for the SPA is favourable
	The total number of waterbirds at Severn Estuary has remained fairly constant during the period 2003/2004 to 2007/08, with an annual average of 69,482 individuals.
	Aust Cliff SSSI (6.23 ha) There are 2 component SSSI units that make up Aust Cliff SSSI. Currently 100% of the total SSSI area is in favourable condition.
	Berrow Dunes SSSI (199.9 ha) There are 4 component SSSI units that make up Berrow Dunes SSSI. Currently 100% of the total SSSI area is in unfavourable recovering condition.
	Blue Anchor to Lilstock Coast SSSI (675.1 ha) There are 8 component SSSI units that make up Blue Anchor to Lilstock Coast SSSI. Currently 77.28% of the total SSSI area is in favourable condition, and 22.72% is unfavourable recovering.
	Brean Down SSSI (66.19 ha) There are 4 component SSSI units that make up Brean Down SSSI. Currently 100% of the total SSSI area is in favourable condition.
	Bridgewater Bay SSSI (6237.46 ha) There are 30 component SSSI units that make up Bridgewater Bay SSSI. Currently 90.56% of the total SSSI area is in favourable condition, 8.77% is unfavourable recovering, and 0.67% is unfavourable declining.
	Middle Hope SSSI (84.38 ha) There are 6 component SSSI units that make up Middle Hope SSSI. Currently 80.4% of the total SSSI area is in favourable condition, and 19.6 is unfavourable recovering.
	Portishead Pier to Black Nore SSSI (64.73 ha) There are 5 component SSSI units that make up Portishead Pier to Black Nore SSSI. Currently 100% of the total SSSI area is in favourable condition.
Purton Passage SSSI (4.09 ha)	

	<p>There is one component SSSI unit that makes up Purton Passage SSSI. Currently 100% of the total SSSI area is in favourable condition.</p>
	<p>Purton Passage SSSI (4.09 ha) There is one component SSSI unit that makes up Purton Passage SSSI. Currently 100% of the total SSSI area is in favourable condition.</p>
	<p>Spring Cove Cliffs SSSI (1.99 ha) There is one component SSSI unit that makes up Spring Cove Cliffs SSSI. Currently 100% of the total SSSI area is in favourable condition.</p>
	<p>Steep Holm SSSI (25.39 ha) There is one component SSSI unit that makes up Steep Holm SSSI. Currently 100% of the total SSSI area is in favourable condition.</p>
	<p>Uphill Cliff SSSI (19.54 ha) There are 3 component SSSI units that make up Uphill Cliff SSSI. Currently 100% of the total SSSI area is in favourable condition.</p>
	<p>Upper Severn Estuary SSSI (1460.45 ha) There are 11 component SSSI units that make up Upper Severn Estuary SSSI. Currently 96.69% of the total SSSI area is in favourable condition, and 3.31% is unfavourable declining.</p>
<p>Key Vulnerabilities & Environmental Conditions Supporting Site Integrity</p>	<ul style="list-style-type: none"> • Maintaining total extent of protected habitat; • Maintaining habitat for protected species outside of the protected areas; • Restricting recreational pressure and disturbance; • Minimising agricultural runoff, sewage discharges and industrial pollution; • Restricting water abstractions; • Control of large-scale human activities within the site, such as land reclamation, aggregate extraction and flood-defence construction.

Site Characteristics: Seven Estuary Ramsar			
Location / NGR / Area	Vale of Glamorgan; Cardiff; Newport; Avon; City of Bristol; Monmouthshire; Gloucestershire; Gwent; North Somerset; Somerset; South Glamorgan; South Gloucestershire	51 13 29 N; 03 02 57 W	24, 662.98 ha
Coincident Sites	Mendip Limestone Grasslands SAC; River Usk SAC; River Wye SAC; Severn Estuary SAC; Severn Estuary SPA; Aust Cliff SSSI; Berrow Dunes SSSI; Blue Anchor to Lilstock Coast SSSI; Brean Down SSSI; Bridgewater Bay SSSI; Middle Hope SSSI; Portishead Pier to Black Nore SSSI; Purton Passage SSSI; Severn Estuary SSSI; Spring Cove Cliffs SSSI; Steep Holm SSSI; Uphill Cliff SSSI; Upper Severn Estuary SSSI		
Broad Habitat Classes	<ul style="list-style-type: none"> • Tidal flats (84.1%) • Salt marshes (4.7%) • Rocky shores (4.7%) • Sand / shingle shores (including dune systems) (4.4%) • Freshwater marshes / pools (permanent) (1%) • Marine beds (e.g. sea grass beds) (0.9%) • Estuarine waters (0.2%) 		
Qualifying Features Reason for Designation	Ramsar Criterion 1 Due to immense tidal range (second-largest in world); this affects both the physical environment and biological communities. Habitats Directive Annex I features present on the SAC include: <ul style="list-style-type: none"> - Sandbanks which are slightly covered by sea water all the time - Estuaries - Mudflats and sandflats not covered by seawater at low tide Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>)		
	Ramsar Criterion 3 Due to unusual estuarine communities, reduced diversity and high productivity.		
	Ramsar Criterion 4 This site is important for the run of migratory fish between sea and river via estuary. Species include Salmon <i>Salmo salar</i> , sea trout <i>S. trutta</i> , sea lamprey <i>Petromyzon marinus</i> , river lamprey <i>Lampetra fluviatilis</i> , allis shad <i>Alosa alosa</i> , twaite shad <i>A. fallax</i> , and eel <i>Anguilla anguilla</i> . It is also of particular importance for migratory birds during spring and autumn.		
	Ramsar Criterion 5 Assemblages of international importance: 70919 waterfowl (5 year peak mean 1998/99-2002/2003)		
	Ramsar Criterion 6 Species/populations occurring at levels of international importance:		

	<ul style="list-style-type: none"> - Tundra swan <i>Cygnus columbianus bewickii</i>, NW Europe. 229 individuals, representing an average of 2.8% of the GB population (5 year peak mean 1998/9- 2002/3) - Greater white-fronted goose <i>Anser albifrons albifrons</i>, NW Europe. 2076 individuals, representing an average of 35.8% of the GB population (5 year peak mean for 1996/7-2000/01) - Common shelduck <i>Tadorna tadorna</i>, NW Europe. 3223 individuals, representing an average of 1% of the population (5 year peak mean 1998/9- 2002/3) - Gadwall <i>Anas strepera strepera</i>, NW Europe. 241 individuals, representing an average of 1.4% of the GB population (5 year peak mean 1998/9- 2002/3) - Dunlin <i>Calidris alpina alpina</i>, W Siberia/W Europe. 25082 individuals, representing an average of 1.8% of the population (5 year peak mean 1998/9-2002/3) - Common redshank <i>Tringa totanus tetanus</i>, 2616 individuals, representing an average of 1% of the population (5 year peak mean 1998/9- 2002/3) <p>Species/populations identified subsequent to designation for possible future consideration under criterion 6:</p> <ul style="list-style-type: none"> - Lesser black-backed gull <i>Larus fuscus graellsii</i>, W Europe/Mediterranean/W Africa. 4167 apparently occupied nests, representing an average of 2.8% of the breeding population (Seabird 2000 Census) - Ringed plover <i>Charadrius hiaticula</i>, Europe/Northwest Africa. 740 individuals, representing an average of 1% of the population (5 year peak mean 1998/9- 2002/3) - Eurasian teal <i>Anas crecca</i>, NW Europe. 4456 individuals, representing an average of 1.1% of the population (5 year peak mean 1998/9-2002/3) <p>Northern pintail <i>Anas acuta</i>, NW Europe. 756 individuals, representing an average of 1.2% of the population (5 year peak mean 1998/9- 2002/3)</p>
<p>Ecological Description</p>	<p>The Severn Estuary is a large estuary with extensive intertidal mudflats and sandflats, rocky platforms and islands. Saltmarsh fringes the coast backed by grazing marsh with freshwater ditches and occasional brackish ditches. The seabed is rock and gravel with subtidal sandbanks. 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. This tidal regime results in plant and animal communities typical of the extreme physical conditions of liquid mud and tideswept sand and rock. A further consequence of the large tidal range is an extensive intertidal zone, one of the largest in the UK.</p> <p>The large tidal range leads to strong tidal streams and high turbidity, producing communities' characteristic of the extreme physical conditions of liquid mud and tide-swept sand and rock. Broad intertidal flats with areas of unstable sand and muddy flats support high densities of invertebrates. Intertidal rock platforms support a wide variety of invertebrate species. There are large areas of subtidal sand, rock and gravel with a variety of aquatic estuarine communities including <i>Sabellaria alveolata</i> reef. Areas of saltmarsh fringe the estuary, mostly grazed with a range of vegetation communities. There are gradual and stepped transitions between bare mudflat to upper marsh and grassland. Main vegetation types are: upper saltmarsh with <i>Festuca rubra</i> and <i>Juncus gerardii</i>; middle marsh dominated by <i>Puccinellia maritima</i> with <i>Glaux maritima</i> and <i>Triglochin maritima</i>; dense monocultures of <i>Spartina anglica</i> at the edge of the mudflats-brackish pools and depressions with <i>Phragmites australis</i> and <i>Bolboschoenus maritimus</i>.</p>

	<p>Ramsar Criterion 8</p> <p>The fish of the whole estuarine and river system is one of the most diverse in Britain, with over 110 species recorded. Salmon <i>Salmo salar</i>, sea trout <i>S. trutta</i>, sea lamprey <i>Petromyzon marinus</i>, river lamprey <i>Lampetra fluviatilis</i>, allis shad <i>Alosa alosa</i>, twaite shad <i>A. fallax</i>, and eel <i>Anguilla Anguilla</i> use the Severn Estuary as a key migration route to their spawning grounds in the many tributaries that flow into the estuary. The site is important as a feeding and nursery ground for many fish species particularly allis shad <i>Alosa alosa</i> and twaite shad <i>A. fallax</i> which feed on mysid shrimps in the salt wedge.</p>
<p>Conservation Objectives</p>	<p>To maintain the following habitats and geological features in favourable condition (*):</p> <ul style="list-style-type: none"> - Sandbanks which are slightly covered by sea water all the time - Estuaries - Mudflats and sandflats not covered by seawater at low tide - Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) <p>To maintain*, in favourable condition, the habitats for the populations of:</p> <ul style="list-style-type: none"> - Salmon <i>Salmo salar</i> - Sea trout <i>Salmo trutta</i> - Sea lamprey <i>Petromyzon marinus</i> - River lamprey <i>Lampetra fluviatilis</i> - Allis shad <i>Alosa alosa</i> - Twaite shad <i>Alosa fallax</i> - Eel <i>Anguilla anguilla</i> - Tundra swan <i>Cygnus columbianus bewickii</i> - Greater white-fronted goose <i>Anser albifrons albifrons</i> - Common shelduck <i>Tadorna tadorna</i> - Gadwall <i>Anas strepera strepera</i> - Dunlin <i>Calidris alpina alpina</i> - Common redshank <i>Tringa totanus tetanus</i> <p>* maintenance implies restoration if the feature is not currently in favourable condition.</p>
<p>Condition Status and Trends</p>	<p>The total number of waterbirds at Severn Estuary has remained fairly constant during the period 2003/2004 to 2007/08, with an annual average of 69,482 individuals.</p> <p>Aust Cliff SSSI (6.23 ha)</p> <p>There are 2 component SSSI units that make up Aust Cliff SSSI. Currently 100% of the total SSSI area is in favourable condition.</p> <p>Berrow Dunes SSSI (199.9 ha)</p> <p>There are 4 component SSSI units that make up Berrow Dunes SSSI. Currently 100% of the total SSSI area is in unfavourable recovering condition.</p>

	<p>Blue Anchor to Lilstock Coast SSSI (675.1 ha) There are 8 component SSSI units that make up Blue Anchor to Lilstock Coast SSSI. Currently 77.28% of the total SSSI area is in favourable condition, and 22.72% is unfavourable recovering.</p>
	<p>Brean Down SSSI (66.19 ha) There are 4 component SSSI units that make up Brean Down SSSI. Currently 100% of the total SSSI area is in favourable condition.</p>
	<p>Bridgewater Bay SSSI (6237.46 ha) There are 30 component SSSI units that make up Bridgewater Bay SSSI. Currently 90.56% of the total SSSI area is in favourable condition, 8.77% is unfavourable recovering, and 0.67% is unfavourable declining.</p>
	<p>Middle Hope SSSI (84.38 ha) There are 6 component SSSI units that make up Middle Hope SSSI. Currently 80.4% of the total SSSI area is in favourable condition, and 19.6 is unfavourable recovering.</p>
	<p>Portishead Pier to Black Nore SSSI (64.73 ha) There are 5 component SSSI units that make up Portishead Pier to Black Nore SSSI. Currently 100% of the total SSSI area is in favourable condition.</p>
	<p>Purton Passage SSSI (4.09 ha) There is one component SSSI unit that makes up Purton Passage SSSI. Currently 100% of the total SSSI area is in favourable condition.</p>
	<p>Severn Estuary SSSI (10,001.16 ha) There are 82 component SSSI units that make up Severn Estuary SSSI. Currently 95.74% of the total SSSI area is in favourable condition, 2.42% is unfavourable no change, and 1.84% is unfavourable declining.</p>
	<p>Spring Cove Cliffs SSSI (1.99 ha) There is one component SSSI unit that makes up Spring Cove Cliffs SSSI. Currently 100% of the total SSSI area is in favourable condition.</p>
	<p>Steep Holm SSSI (25.39 ha) There is one component SSSI unit that makes up Steep Holm SSSI. Currently 100% of the total SSSI area is in favourable condition.</p>
	<p>Uphill Cliff SSSI (19.54 ha) There are 3 component SSSI units that make up Uphill Cliff SSSI. Currently 100% of the total SSSI area is in favourable condition.</p>
	<p>Upper Severn Estuary SSSI (1460.45 ha) There are 11 component SSSI units that make up Upper Severn Estuary SSSI. Currently 96.69% of the total SSSI area is in favourable condition, and 3.31% is unfavourable declining.</p>

Key Vulnerabilities &
Environmental Conditions
Supporting Site Integrity

- Restrictions on dredging activities;
- Minimising erosion;
- Preventing excessive disturbance from recreation and tourism.

Site Characteristics: River Wye SAC			
Location / NGR / Area	Fynwy/ Monmouthshire; Gloucestershire; Herefordshire; Powys	SO109369	2234.89ha
Coincident Sites	River Wye SSSI (906.1)		
Broad Habitat Classes	<ul style="list-style-type: none"> • Tidal rivers. Estuaries. Mud flats. Sand flats. Lagoons (including saltwork basins) (9.5%) • Salt marshes. Salt pastures. Salt steppes (1.5%) • Inland water bodies (standing water, running water) (52.5%) • Bogs. Marshes. Water fringed vegetation. Fens (3.1%) • Heath. Scrub. Maquis and garrigue. Phygrana (1%) • Dry grassland. Steppes (5.3%) • Humid grassland. Mesophile grassland (2.4%) • Improved grassland (10.4%) • Broad-leaved deciduous woodland (12.3%) • Inland rocks. Screes. Sands. Permanent snow and ice (0.2%) • Other land (including towns, villages, roads, waste places, mines, industrial sites) (1.8%) 		
Qualifying Features Reason for Designation	Annex I Habitats <ul style="list-style-type: none"> • Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitriche-Batrachion</i> vegetation • Transition mires and quaking bogs 		
	Annex II Species <ul style="list-style-type: none"> • White-clawed (or Atlantic stream) crayfish <i>Austropotamobius pallipes</i> • Sea lamprey <i>Petromyzon marinus</i> • Brook lamprey <i>Lampetra planeri</i> • River lamprey <i>Lampetra fluviatilis</i> • Twait shad <i>Alosa fallax</i> • Atlantic salmon <i>Salmo salar</i> • Bullhead <i>Cottus gobio</i> • Otter <i>Lutra lutra</i> • Allis shad <i>Alosa alosa</i> 		
Ecological Description	<p>The surface water in the Wye and its tributaries is mostly unpolluted; so much of it is suitable as a source of drinking water and for supporting a salmon and trout fishery. Nevertheless, certain rivers and streams in the upper catchment suffer from acidification and localised pollution problems from inadequate sewerage and agricultural sources also exist. The Wye is one of the best known salmon rivers in England and Wales. Shad and Sea Lamprey also migrate into the Wye. The river corridor supports a variety of plant communities, otters, water voles, several bat species, dippers, sandmartins, kingfishers and little ringed plovers. The biological quality of the river is generally good and supports several rare or scarce species including the mayfly <i>Potamanthus luteus</i>, the freshwater pearl mussel <i>Margaritifera margaritifera</i> and the native crayfish. The river also</p>		

	supports several rare species of non-aquatic invertebrates associated with gravel shoals (ECN Data Centre, 2012).
Conservation Objectives	<p>To maintain the designated species in favourable condition, which is defined in part in relation to their population attributes.</p> <p>To maintain the designated features in favourable condition, which is defined in part in relation to a balance of habitat extents (extent attribute).</p> <p>To maintain the freshwater and species on the River Wye SSSI /SAC in favourable condition, with particular reference to relevant specific designated interest features.</p>
Condition Status and Trends	<p>SAC Water Framework Directive Unit condition is unfavourable</p> <p>There are seven SSSI units associated with the River Wye SSSI. Currently 14.64% is in a favourable status whilst 85.36% is in an unfavourable revering condition.</p>
Key Vulnerabilities & Environmental Conditions Supporting Site Integrity	<ul style="list-style-type: none"> • Water Quality: agricultural impacts through diffuse pollution such as nutrient run off and increased siltation. Sheep dip chemicals also affecting water quality in addition to point source discharges and sewage. • Water Quantity: increased demand for abstraction from the river for agriculture and potable water. • Increase recreational activities. Fishing activities have been implicated in the decline of salmon. Possible bankside habitat damage from increased recreation. • Changes in land use practices have the potential to damage and loss of riparian vegetation.

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