Doncaster
Metropolitan Borough Council

Bassetlaw District Council

Habitat Regulation Assessment Methodology Final Draft

Produced By Doncaster Metropolitan Borough Council
May 2010

Reviewed By	Date	Changes
S. Butler	26.03.10	Draft Approved
H. Markland	30.04.10	Draft changes following comments by Natural England.
H. Markland	10.05.10	Minor Amendments following meeting with Bassetlaw District Council

Contents

1. Introduction

1.1 Aims of the Report

1.1.1 Bassetlaw District Council is in the process of preparing its core strategy and other related development plan documents. As part of this process thought must be given to whether any of these plans may impact upon sites of European Importance for nature conservation. Doncaster Metropolitan Borough Council has been appointed to prepare a methodology that future development plans and documents can use to undertake the Habitat Regulations Assessment process.

1.1.2 This report aims to:

- Identify the relevant European sites that will be considered in the HRA process.
- Identify conservation objectives for these sites.
- Identify key vulnerabilities.
- Provide a methodology that can be used to screen documents under the HRA process.
- Document additional plans that may result in a cumulative impact on sites.

1.1.3 The methodology detailed in this document has been given to Natural England in order to obtain their views on the approach presented. Natural England indicated that the proposed methodology appeared to be sound, suggesting some minor additions which have since been incorporated.

1.2 Background

1.2.1 Natura 2000 sites are a network of sites spanning Europe that are considered to represent natural habitats of the highest value for nature conservation. The sites can be important for plants and animals that are rare or considered threatened in a European context. The network of sites were

established under the 1992 Habitats Directive[1] and 1979 Birds Directive[2] and consist of Special Areas of Conservation (SACs) and Special Protection Areas (SPAs). These sites are often simply referred to as 'European Sites'. SACs are designated for their importance for habitats while SPAs are designated for their importance for birds.

1.2.2 In addition to SPA and SAC sites, Ramsar[3] sites are designated areas important for their wetland habitats. Planning Policy Statement 9 states that Ramsar sites should receive the same level of protection as SPA and SAC sites. This means that any Ramsar sites should be taken into account in the HRA process.

1.2.3 Under the provisions of the Habitats Directive, and translated into UK law by the Habitats Regulations[4], a competent authority must carry out an assessment of whether a plan or project will significantly affect the integrity of any European Site, in terms of impacting the site's conservation objectives. The term 'Habitat Regulations assessment' was used in draft guidance by Natural England[5] to describe the whole process of assessing the effects of a development plan on a European Site. An 'Appropriate Assessment' is simply a step within the Habitat Regulations Assessment.

1.2.4 Importantly, the assessment must be based on a rigorous application of the precautionary principle and therefore requires those undertaking the exercise to prove that the plan will not have a significant impact on the European Site's conservation objectives. Where uncertainty or doubt remains, an adverse impact should be assumed.

[1] Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora.
[2] Council Directive 79/409/ECC on the conservation of wild birds (as amended and subsequently codified in Directive 2009/147/EC).
[3] Convention on Wetlands of International Importance especially as Waterfowl Habitat. Ramsar (Iran), 2nd February 1971.
[4] The Conservation (Natural Habitats, &c.) Regulations 1994
[5] Draft Guidance on The Assessment of Regional Spatial Strategies and Sub-Regional Strategies under the Provisions of the Habitat Regulations.

2. European Sites Potentially Affected

2.1 European Sites to be considered

2.1.1 No European Sites lie within the Bassetlaw administrative area, however three sites have been identified that lie within 15km[1] of the boundary:

- Birklands and Bilhaugh SAC
- Hatfield Moors SAC and SPA
- Thorne Moors SAC and SPA

No Ramsar sites are considered likely to be impacted by development plans in the Bassetlaw area, hence they are not considered further in this document. Appendix 1 contains a map showing the location of the above sites in relation to the Bassetlaw administrative area.

2.1.2 Whenever a plan or project is subject to the Habitat Regulations Process the above three sites should be considered. However it is important to note that it is possible that sites outside this 15km zone may need to be considered, dependant on the nature of the plan or project that is proposed. At an early stage each time the Habitat Regulations Assessment process is undertaken it is therefore essential that Natural England are consulted to identify whether additional sites should be included within the analysis.

2.1.3 For example The Humber Estuary SAC / SPA / Ramsar lies just over 15km to the North of the Bassetlaw District. The River Idle flows through the Bassetlaw district, into the River Trent and then into the Humber. The site is vulnerable to changes in water quality that could result from industrial or domestic pollution entering water courses that flow into the Humber. Were a project or plan to identify large scale industrial development in the district, and were it to be considered that this could result in an impact on water quality in the River Idle, then this methodology should be expanded to identify all the relevant site issues that should be taken into account within the HRA process.

[1] No set distance is prescribed in the HRA process, however 15km is considered reasonable in this instance.

2.1.4 A brief description of, and the rationale behind the designation of, each of the above sites are provided below.

Birklands and Bilhaugh SAC

Birklands and Bilhaugh SAC is an area of Sherwood Forest designated due to the presence of old acidophilous oak woodland on sandy plains. It is one of only four locations in the UK where this habitat is found and considered to be of outstanding quality. While not a designating feature, the site is notable for its rich invertebrate fauna, particularly spiders, and for having a diverse range of fungal species. The woodland also has a mixed age structure and is important for its dead wood communities.

Hatfield Moor SAC

Hatfield Moor SAC is designated due to the presence of degraded raised bog that is considered capable of natural regeneration. It is the second largest site of this type in the UK (after Thorne Moors). The site is relic of a once extensive area of bog and fen peatlands in the Humberhead Levels. Historical peat extraction on the site means little of the original habitat remains however, since mineral working ceased the bog is being restored. The site includes birch woodland, dwarf shrubs such as heathers, bog species and sphagnum mosses. It is also notable for its invertebrate species including the mire pill beetle.

Thorne Moor SAC

Thorne Moor SAC is designated due to the presence of degraded raised bog considered capable of regeneration. It is the largest area of this habitat type in the country. Due to restoration work, a small proportion of the site contains active raised bog, a second reason for the site designation. A variety of species are present including sphagnum mosses, cotton grasses, heather, cranberry and bog rosemary.

Thorne and Hatfield Moor SPA

Parts of Thorne and Hatfield Moors are designated as an SPA as the area regularly supports a population of Nightjar during the breeding season.

Thorne and Hatfield Moors is the most northerly site designated an SPA because of the presence of breeding nightjar. The site supports approximately 1.8% of the national population of this species.

2.2 Conservation Objectives and Site Vulnerabilities

2.2.1 Natural England have defined conservation objectives for all of the three European designated sites within 15km of the Bassetlaw district. A conservation objective describes the desired state in which a habitat or feature on a site should be maintained. Conservation objectives relate specifically to the features of a site that provide the reason for that site being designated (the reasons for designating each site are defined in section 2.1.4).

2.2.2 Appendix 2 contains the conservation objectives produced by Natural England for each of the sites being considered in this methodology. A summary of these objectives is provided below in Table 1.

Table 1: Summary of Conservation Objectives

Site Name	Conservation Objective
Thorne and Hatfield Moors SAC	• To have no loss in area of lagg fen and bog. • To have no obvious modification in habitat structure. • To maintain vegetation composition. • To maintain species indicating local distinctiveness.
Thorne and Hatfield Moors SPA	• To monitor the number of calling male birds each year and maintain a stable or increasing population. • To not lose any more than 5% of the current nightjar habitat. • To maintain a mosaic of habitat types.
Birklands and Bilhaugh SAC	• To maintain the wood decay invertebrate assemblage. • To maintain the extent of the area covered by ancient semi natural wood pasture. • To maintain the age and size class distribution. • To not have any reduction in the number of veteran trees. • To maintain areas of open habitat.

	• To ensure dead wood habitat is maintained. • To ensure regeneration of young trees. • To ensure species composition is desirable. • Ensure that less than 5% of native oaks above a set size show signs of stress. • To maintain local distinctiveness. • To ensure associate fungi and invertebrates show no sign of significant decline. • To ensure that vegetation heterogeneity is maintained so a range of vegetation surfaces are available.

2.2.3 During the Habitat Regulations Assessment process the vulnerabilities of a site are identified by considering issues that could act to compromise that site's conservation objectives, and hence threaten the site's integrity. The integrity of a site is defined, in paragraph 20 of ODPM Circular 06/2005[1], as:

> 'the coherence of its ecological structure and function, across its whole area, that enables it to sustain the habitat, complex of habitats and/or the levels of populations of the species for which it was classified'.

2.2.4 Having considered the conservation objectives for each site, Table 2 details issues that are of relevance to maintaining site integrity and should therefore be considered during the Habitat Regulations Assessment process. For each issue the following points are described.

- How and why the issue has potential to affect the site integrity.
- What types of policies will need to be assessed when considering if or how the plan or project will significantly affect a site's integrity.
- Which other plans, projects and documents would need to be considered to cover any potential in combination effects.

[1] ODPM Circular 06/2005 Government Circular: Biodiversity and Geological Conservation – Statutory obligations and their impact within the planning system.

Table 2: Issues to be considered for maintaining site integrity.

Thorne and Hatfield Moors SAC's		
Issues that could affect site integrity	**Types of policies to consider**	**Other plans, projects or documents to consider**
<u>Water Abstraction</u> Thorne and Hatfield Moors are designated because of their potential to be restored to bog habitats. Bogs are water fed systems and hence critically dependant on water levels. A change in the water table (increase or decrease) has the potential to have a significant negative impact on this type of habitat. The geology beneath Thorne Moor differs from that under Hatfield Moor. Hatfield Moor sits on a bed of sand and gravel moraine that is part of the Sherwood Sandstone bedrock. This is a permeable substrate and is hence vulnerable to vertical movements in the water table. If water is removed from the aquifer, causing the water table to drop under areas of the site, then this could cause habitat damage. Thorne Moor is underlain by a band of alluvial clay. This clay band is impermeable which means that the site is not susceptible to vertical changes in the water table. The site derives most of its water from rainfall and is instead vulnerable to horizontal water movements that can result from landuse practices in the areas surrounding the site boundary. Due to the distance of the Bassetlaw boundary from Thorne Moor, it is considered that projects or plans in the Bassetlaw district would not affect horizontal transfer	Any type of development that would lead to the need for water to be abstracted from the Sherwood Sandstone aquifer has the potential to negatively impact on Hatfield Moor. Building new housing increases the demand for water in an area. It is therefore important that it is determined how the demand for water, resulting from policies promoting housing growth, will be met without impacting the Sherwood Sandstone aquifer water levels. Industry and farming also have the potential to increase the demand for water. For example commercial glasshouses and food processing plants. Any policies targeting growth in these type of industries has the potential to impact water levels.	Bassetlaw Water Cycle Study Scoping Report 2009 Severn Trent Water Resource Management Plan. Newark and Sherwood District Council Core Strategy Options Report (Appropriate Assessment) October 2009 Nottinghamshire and Nottingham Waste Core Strategy and Development Control Policies October 2006. Doncaster Metropolitan Borough Council Core Strategy Consultation Draft Appropriate Assessment 2008 Rotherham Metropolitan Borough Council Core Strategy Sustainability Appraisal. North Lincs Core Strategy Preferred options Appropriate Assessment

Thorne and Hatfield Moors SAC's		
Issues that could affect site integrity	**Types of policies to consider**	**Other plans, projects or documents to consider**
of water away from the site.		
Climate Change Thorne and Hatfield Moors comprise degraded bog habitat that is critically dependant on water. Rainfall is a crucially important resource needed to maintain and restore the habitat. Climate change has the potential to threaten the integrity of both sites were it to result in a fall in the amount of rainfall they receive. Climate change is thought to be caused by increases in the levels of greenhouse gases in our atmosphere. Greenhouse gases include carbon dioxide, methane, nitrous oxides and fluorocarbons.	Any policies that result in development which could contribute towards climate change have the potential to negatively impact Thorne and Hatfield Moors. A variety of policies could lead to an increase in the emissions of greenhouse gases. These include policies relating to the following issues car and air travel, fossil fuel power stations, industry, creation of new houses, certain types of industry, and deforestation.	Local Climate Change Action Plan
Air Pollution Various sources of pollution produce Nitrogen containing gases. Nitrogen deposition is a process whereby nitrogen containing particles present in the air, are incorporated into a habitat. This can happen as particles in the air are dissolved in water and fall as precipitation (wet deposition), or through direct input of particles into the soil (dry deposition). Data from the UK Air Pollution Information System[1] shows that the current levels of nitrogen deposition at	As that the critical thresholds for both nitrogen deposition and acid deposition are already exceeded it is important to determine which policies may cause increased pollution levels. Given the distance of the Bassetlaw district from Thorne and Hatfield moors it is considered that dry deposition is unlikely to be an issue. The impacts of air pollution in terms of wet deposition should however be taken into account. Policies relating to increased housing provision will lead to a rise in the number of car owners in the region and	East Midlands RSS Partial Review HRA 2008 Nottinghamshire Air Quality Strategy North Nottinghamshire Transport Plan Nottinghamshire and Nottingham Waste Core Strategy and Development Control Policies October 2006.

[1] http://www.apis.ac.uk/

Thorne and Hatfield Moors SAC's		
Issues that could affect site integrity	**Types of policies to consider**	**Other plans, projects or documents to consider**
Thorne and Hatfield Moors exceed critical thresholds for bog habitats. Lowland raised bog habitats are nutrient poor systems. The lowland raised bog habitats present on Thorne and Hatfield Moors are ombrotophic, meaning they derive their water and nutrients from the atmosphere. This type of habitat is highly sensitive to nitrogen deposition because higher nutrient levels lead to the preferential growth of competitive grass and tree species, rather than bog forming sphagnum mosses. Nitrogen deposition can therefore lead to an increase in nutrient levels that would have a significantly adverse impact on the lowland raised mire habitat. Acid deposition is a process where pollutants in the air lead to acidification of soils. This can happen though direct uptake of particles (dry deposition) or input from precipitation (Wet deposition). Data from the UK Air Pollution Information System shows that the current levels of acid deposition at Thorne and Hatfield Moors exceed critical thresholds for bog habitats. Changing the pH of soils could be damaging to the habitats present on Thorne and Hatfield Moors. While the sphagnum moss communities present in restored bog habitats thrive in acidic conditions,	hence a rise in NOx emissions. Policies relating to the provision of new roads may result in more cars traveling through the region and hence a rise in NOx pollution from cars. Policies relating to the provision of heavy industry, waste or power facilities also have the potential to increase NOx pollution and acid deposition. Weak public transport policies have the potential to increase the reliance car journeys and hence lead to a rise in NOx emissions.	

Thorne and Hatfield Moors SAC's		
Issues that could affect site integrity	**Types of policies to consider**	**Other plans, projects or documents to consider**
increases in acid deposition may take acidity levels beyond the tolerance for this habitat.		
Recreational Disturbance The bog habitats present in Thorne and Hatfield Moors are sensitive to the pressures caused by recreational disturbance. Specifically this includes trampling of the habitats and damage from fires caused by reckless behaviour.	Policies that increase housing numbers in the Bassetlaw area will increase the number of people living near to Hatfield Moors SAC. Some of these people will visit the site for recreational purpose and hence policies of this type have the potential to impact upon the site. (Given the distance to Thorne Moors it is considered less likely that increased housing in Bassetlaw will increase recreational disturbance on this site). Weak public open space policies have the potential to lead to increased numbers of people visiting international sites such as Hatfield Moors for recreational purposes. This would be particularly the case if new housing developments do not provide alternative high quality publicly accessible open spaces. Policies that make access to Thorne and Hatfield Moor easier by carrying out public rights of way improvements have the potential to increase recreational pressure on these sites.	Newark and Sherwood District Council Core Strategy Options Report (Appropriate Assessment) October 2009 Nottinghamshire and Nottingham Waste Core Strategy and Development Control Policies October 2006. Doncaster Metropolitan Borough Council Core Strategy Consultation Draft Appropriate Assessment 2008 Rotherham Metropolitan Borough Council Core Strategy Sustainability Appraisal. North Lincs Core Strategy Preferred options Appropriate Assessment East Midlands Tourism Strategy Green Infrastructure Plans Public Rights of Way Plans

Thorne and Hatfield Moors SPA		
Issue	**Types of policies to consider**	**Cumulative impacts**
Loss of foraging habitat Nightjar forage within 3km of their breeding habitat. Loss of suitable foraging habitat within this radius could therefore be detrimental to the breeding success of the nightjar population.	Due to the distance of the Bassetlaw district boundary from Thorne and Hatfield Moors it is considered that plans and projects within Bassetlaw will not impact upon nightjar foraging habitat.	N/A
Recreational Disturbance Nightjar are vulnerable to recreational disturbance caused by people and dogs. As a summer resident to the UK this pressure is most acute during the breeding season.	Policies that increase housing numbers in the Bassetlaw area will increase the number of people living near to Hatfield Moors SAC. Some of these people will visit the site for recreational purpose and hence policies of this type have the potential to impact upon the site. (Given the distance to Thorne Moors it is considered less likely that increased housing in Bassetlaw will increase recreational disturbance on this site). Weak public open space policies have the potential to lead to increased numbers of people visiting international sites such as Thorne and Hatfield Moors for recreational purposes. This would be particularly the case if new housing developments do not provide alternative high quality publicly accessible open spaces. Policies that make access to Thorne and Hatfield Moor easier by carrying out public rights of way improvements have the potential to increase recreational pressure on these sites.	Newark and Sherwood District Council Core Strategy Options Report (Appropriate Assessment) October 2009 Nottinghamshire and Nottingham Waste Core Strategy and Development Control Policies October 2006. Doncaster Metropolitan Borough Council Core Strategy Consultation Draft Appropriate Assessment 2008 Rotherham Metropolitan Borough Council Core Strategy Sustainability Appraisal. North Lincs Core Strategy Preferred options Appropriate Assessment East Midlands Tourism Strategy Green Infrastructure Plans Public Rights of Way Plans

Birklands and Bilhaugh SAC

Issue	Types of policies to consider	Possible Cumulative Impacts
Recreational Pressure The habitats present at Birklands and Bilhaugh SAC are fragile and vulnerable to damage caused by people visiting the site. People walking along or straying from paths can cause ground compaction that damages tree roots and ground flora. The site is designated due to the quality of its woodland habitats and the conservation objectives for the site include ensuring there is no decrease in the area of the habitat or loss of the site's mosaic structure. The HRA for the Core Strategy Options for Newark and Sherwood[1] assumed that visitors to Sherwood Forest would travel from settlements up to 20km away to visit the site. Housing developments within 20km of the site would therefore have the potential to increase the recreational pressure on the site. The provision of good quality areas of public open space within new housing developments, as well as the improvement of existing areas, can help to alleviate recreational pressure on important wildlife sites.	Policies that increase housing numbers in the Bassetlaw area will increase the number of people living near to Birklands and Bilhaugh SAC. Some of these people will visit the site for recreational purpose and hence policies of this type have the potential to impact upon the site. Policies that relate to the provision of open space and green infrastructure should be assessed to consider whether they will adequately reduce recreational pressure on the Birklands and Bilhaugh SAC. Weak open space policies could lead to poor recreational provision for local residents and hence could have a significant negative impact on the Birklands and Bilhaugh SAC.	Newark and Sherwood District Council Core Strategy Options Report (Appropriate Assessment) October 2009 Nottinghamshire and Nottingham Waste Core Strategy and Development Control Policies October 2006. Rotherham Metropolitan Borough Council Core Strategy Sustainability Appraisal. East Midlands Tourism Strategy Green Infrastructure Plans Public Rights of Way Plans

[1] Newark and Sherwood Core Strategy Options Report: Assessment under the Habitat Regulations Oct 2009

Birklands and Bilhaugh SAC

Issue	Types of policies to consider	Possible Cumulative Impacts
Air Pollution Various sources of pollution produce Nitrogen containing gases. Nitrogen deposition is a process whereby nitrogen containing particles present in the air are incorporated into a habitat. This can happen as particles in the air are dissolved in water and fall as precipitation (wet deposition), or through direct input of particles into the soil (dry deposition). Data from the UK Air Pollution Information System shows that the current levels of nitrogen deposition at Birklands and Bilhaugh SAC exceed critical thresholds for this type of woodland[1]. Nitrogen deposition could be harmful to the habitats present on the site as it could result in changes in species composition as nitrogen loving species increase. Acid deposition is a process where pollutants in the air lead to acidification of soils. This can happen though direct uptake of particles (dry deposition) or input from precipitation (wet deposition). Data from the UK Air Pollution Information System shows that the current levels of acid deposition at Birklands and Bilhaugh SAC exceed critical thresholds for woodland habitats of this type.	Given that the critical thresholds for both nitrogen deposition and acid deposition are already exceeded it is important to determine which policies may cause increased pollution levels. Policies relating to increased housing provision will lead to a rise in the number of car owners in the region and hence a rise in NOx emissions. Policies relating to the provision of new roads may result in more cars traveling through the region and hence a rise in NOx pollution from cars. Policies relating to the provision of heavy industry, waste or power facilities also have the potential to increase NOx pollution and acid deposition. Weak public transport policies have the potential to increase the reliance car journeys and hence lead to a rise in NOx emissions.	East Midlands RSS Partial Review HRA 2008 Nottinghamshire Air Quality Strategy North Nottinghamshire Transport Plan Nottinghamshire and Nottingham Waste Core Strategy and Development Control Policies October 2006.

[1] http://www.apis.ac.uk/

Birklands and Bilhaugh SAC		
Issue	**Types of policies to consider**	**Possible Cumulative Impacts**
Increased acidity on the site may result in a fall in tree vitality and changed in ground flora composition. It could also have a direct impact on bryophytes and lichens.		
Water Abstraction The habitats present in Birklands and Bilhaugh SAC are not specifically reliant on water however they could be vulnerable to stress if subject to low groundwater levels. Many forms of development require water and therefore have the potential to impact on ground water levels in the Bassetlaw District. Birklands and Bilhaugh SAC is located over the Sherwood Sandstone Aquifer. Extraction of water from this source could impact the site.	Any polices that will result in an increased demand for water, for example new housing, should be considered.	Bassetlaw Water Cycle Study Scoping Report 2009 Severn Trent Water Resource Management Plan. Newark and Sherwood District Council Core Strategy Options Report (Appropriate Assessment) October 2009 Nottinghamshire and Nottingham Waste Core Strategy and Development Control Policies October 2006.

2.3 Potential Cumulative Impacts

2.3.1 The third column in Table 2 details other plans and projects that might need to be taken into account when carrying out an assessment under the Habitat Regulations. These documents should be considered in order to assess whether a plan or policy might have a cumulative impact on a European Site. Further details of each of the projects or plans mentioned in Table 2 are available in Appendix 3.

2.4 A Possible New SPA

2.4.1 It is understood that an area of land in close proximity to the Bassetlaw District is being considered for designation as an SPA due to nightjar and woodlark interests. Until this area is designated formally it is difficult to provide the same level of detail regarding site vulnerabilities as has been given for Thorne and Hatfield Moors and Birklands and Bilhaugh. If the designation were to be implemented then this methodology should be reviewed and updated accordingly. This would involve identifying the reasons for site designation, obtaining the conservation objects for the site to help identify site vulnerabilities, and expanding Table 2 to include issues that could affect the integrity of the site.

3. Methods and Approach

3.1 Introduction

3.1.1 This chapter sets out a methodology that can be undertaken when carrying out an assessment under the Habitat Regulations. The methodology has been prepared with reference to European guidance[1] and Natural England's Draft guidance[2].

3.1.2 An assessment under the Habitat Regulations can be split into three stages as detailed below.

Stage 1: Screening and Scoping

↓

Stage 2: Appropriate Assessment

↓

Stage 3: Assessment of Alternative Solutions

3.2 Stage 1: Screening and Scoping

3.2.1 The screening stage helps to identify if a policy or plan will have an impact on a European Site and if an 'Appropriate Assessment' is needed. Flow chart 1 (Screening and Scoping) should be used together with Table 2 to carry out the screening exercise.

The first stage is to identify which policies or plans will have no effect on any European Site. Categories A-E listed in Table 3 identify common reasons why a policy or plan may not need an Appropriate Assessment. Categories F&G identify reasons why a plan or project might impact upon a European Site. It is important for clarity to record the results of the screening stage. Table 4 is for recording the results of the screening exercise.

[1] Assessment of plans and projects significantly affecting Natura 2000 sites
[2] Draft Guidance on the Assessment of Regional Spatial Strategies under the provision of the Habitats Regulations

3.2.2 Natural England aim to be heavily involved with bodies that are undertaking an assessment under the Habitat Regulations. Therefore having completed Table 4 the results should be sent to Natural England for consultation.

FLOW CHART 1

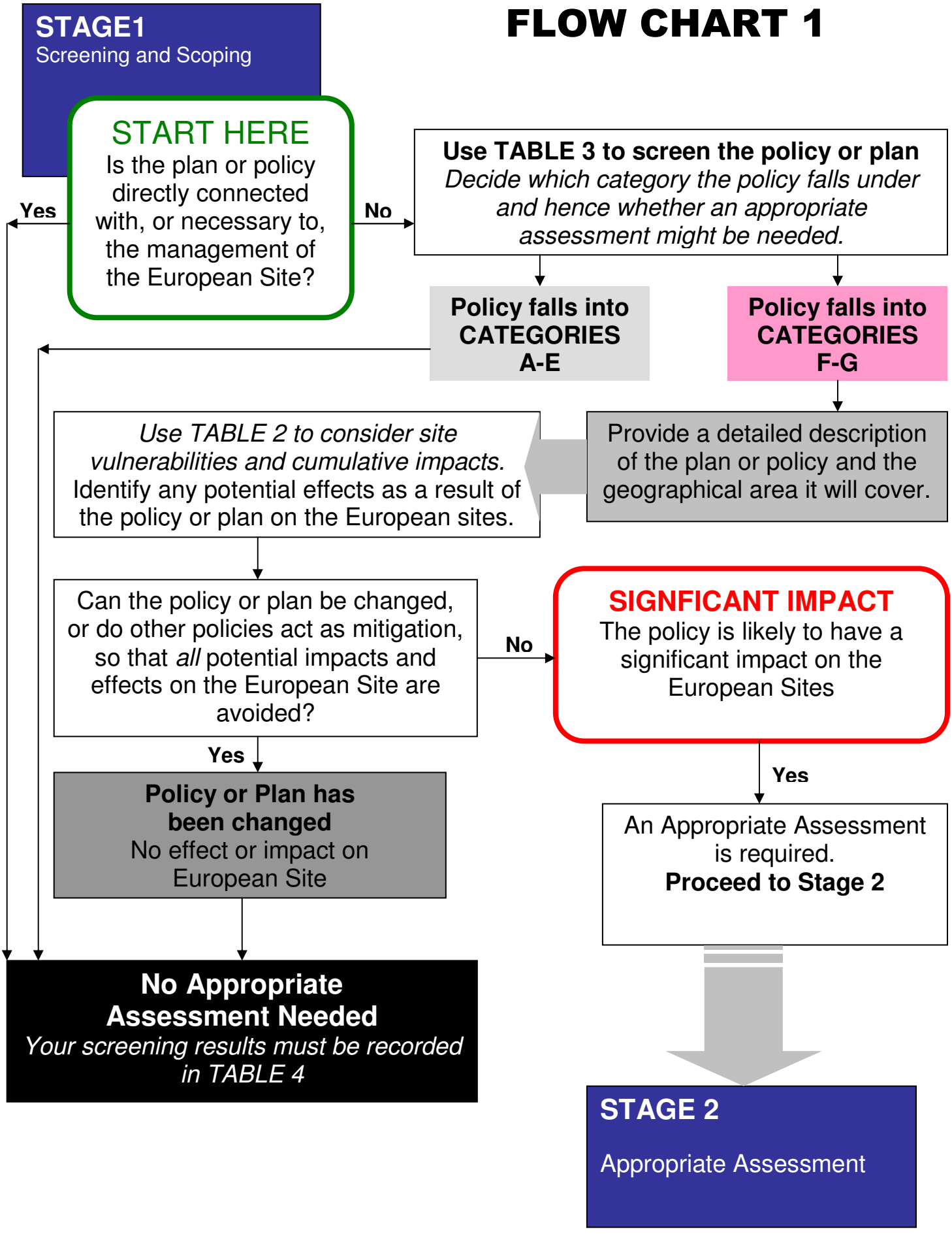
STAGE1
Screening and Scoping
START HERE
Is the plan or policy directly connected with, or necessary to, the management of the European Site?
Yes
No
Use TABLE 3 to screen the policy or plan
Decide which category the policy falls under and hence whether an appropriate assessment might be needed.
Policy falls into CATEGORIES A-E
Policy falls into CATEGORIES F-G
Provide a detailed description of the plan or policy and the geographical area it will cover.
Use TABLE 2 to consider site vulnerabilities and cumulative impacts.
Identify any potential effects as a result of the policy or plan on the European sites.
Can the policy or plan be changed, or do other policies act as mitigation, so that all potential impacts and effects on the European Site are avoided?
No
SIGNFICANT IMPACT
The policy is likely to have a significant impact on the European Sites
Yes
Policy or Plan has been changed
No effect or impact on European Site
Yes
An Appropriate Assessment is required.
Proceed to Stage 2
No Appropriate Assessment Needed
Your screening results must be recorded in TABLE 4
STAGE 2
Appropriate Assessment

Table 3: Screening Categorisation

Category	Purpose of Policy
A	The policy will not itself lead to development (e.g. it is a policy about design or other qualitative criteria for development).
B	The policy makes provision for a number or type of development, the location of which is to be considered in a lower tier plan.
C	The policy is intended to protect the natural environment including biodiversity.
D	The policy is intended to conserve or enhance the natural, built or historic environment, where enhancement will not have an effect on a European Site.
E	The policy helps steer development away from sensitive sites as it promotes development in other areas.
F	The plan or policy is likely to have an impact on a European Site as it will lead to the following; • The plan or policy chooses land or steers future built development in an area where a European site is located. • The plan or policy is a proposal for Major built Development (including quarrying, and wind farms) adjacent to or in an area that includes a European site. • An amount or type of development that regardless of where it is located could impact a European site.
G	The plan or policy when considered in combination with other plans or projects is likely to have a significant effect on a European site.

Table 4: Screening and Scoping Results

Screening and Scoping				
Section of document, policies or objectives being screened	**Policy Reference / Section Reference**	**Categorisation in initial screening with explanation**	**Comments and recommendations where initial screening is Category F or G**	**Categorisation following detailed consideration of the issues and taking into account changes to plan or policy**
Vision for Bassetlaw	Section 4.1 – 4.12	Category B The vision is not a policy in its self but reflects the aspirations of the Council for the Local Development Framework. The vision will be delivered by the policies contained in the Core Strategy. Therefore it is considered that this vision will not have any direct impacts on a European site.	N/A	N/A

3.3 Stage 2: Appropriate Assessment

3.3.1 If stage 1 identifies the need for an Appropriate Assessment then the process outlined in Flow Chart 2 should be undertaken and table 5 completed. In making the assessment of how site integrity is impacted by a project or plan then it is essential that the precautionary principle is adopted. The key premise of the precautionary principle is that in situations where an impact on site integrity cannot definitely be ruled out, then an adverse impact should be assumed.

3.3.2 As outlined in Flow Chart 2 the process of designing and reviewing mitigation measures should be repeated until a situation is reached where all adverse impacts on the European Sites are avoided. In rare cases where this is not possible then it would be necessary to move to stage 3.

FLOW CHART 2

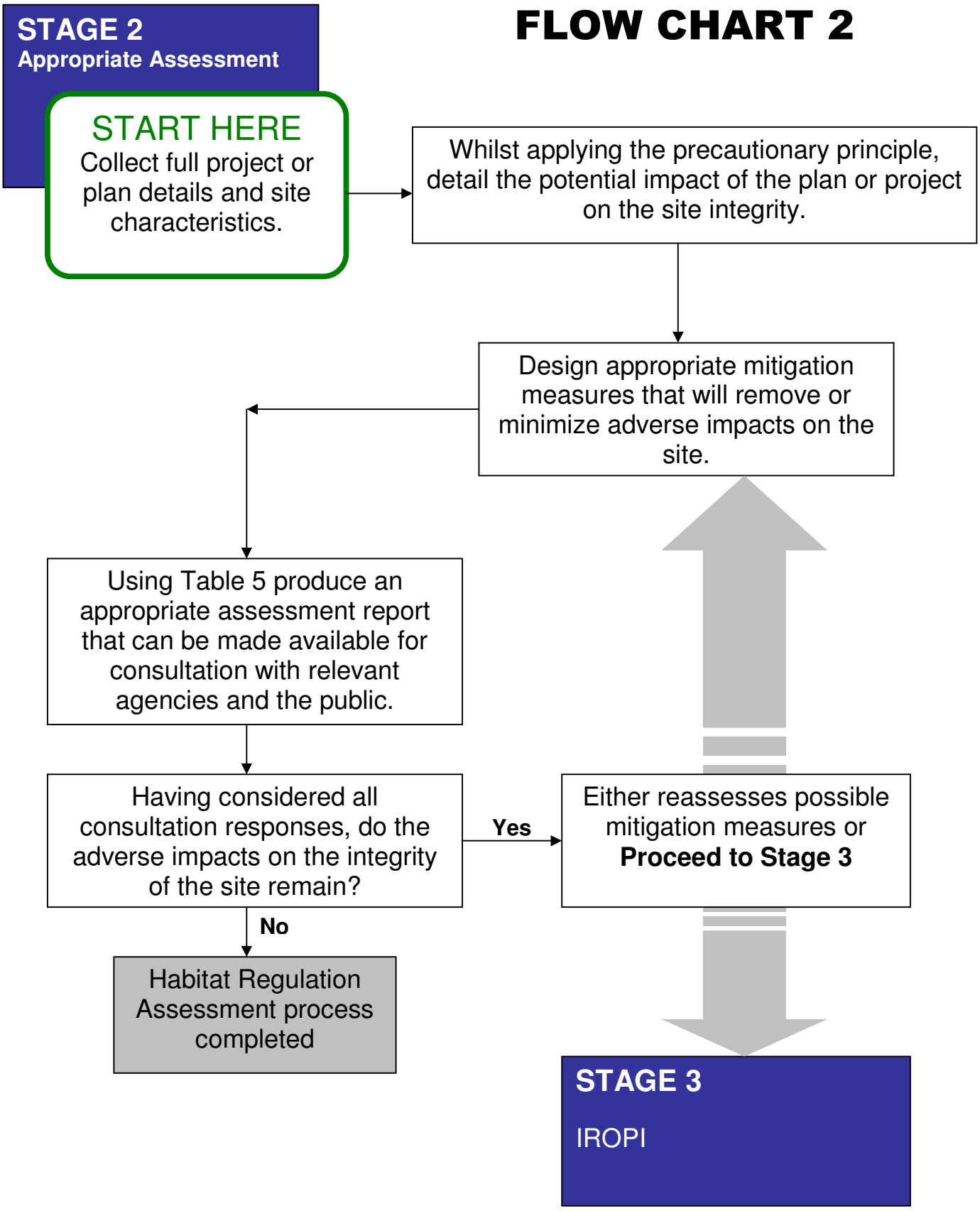
STAGE 2
Appropriate Assessment
START HERE
Collect full project or plan details and site characteristics.
Whilst applying the precautionary principle, detail the potential impact of the plan or project on the site integrity.
Design appropriate mitigation measures that will remove or minimize adverse impacts on the site.
Using Table 5 produce an appropriate assessment report that can be made available for consultation with relevant agencies and the public.
Having considered all consultation responses, do the adverse impacts on the integrity of the site remain?
Yes
Either reassesses possible mitigation measures or Proceed to Stage 3
No
Habitat Regulation Assessment process completed
STAGE 3
IROPI

Table 5: Appropriate Assessment Results

Stage 2: Appropriate Assessment				
Policy Reference	**Designated Features**	**Threat to site**	**Potential Impacts**	**Recommendations/Suggested Mitigation**

3.4 Stage 3: Imperative Reasons of Overriding Public Interest

3.4.1 In the unlikely scenario that it is not possible to adapt a plan or policy sufficiently to avoid any adverse impact on a European site then it would be necessary to establish whether there are any imperative reasons of overriding public interest that mean the plan should progress. If it is considered that such reasons exist, which outweigh the damage that will be caused to the site, then the next stage is to notify the Government Office who will consider whether the plan or project should proceed.

Appendix 1

Map showing locations of European Sites

INSERT MAP

Appendix 2

European Site Conservation Objectives

INSERT NATURAL ENGLAND CONSERVATION OBJECTIVES

Appendix 3

Other plans and projects to consider

Name of Plan	Issues which may need consideration
East Midlands RSS Partial Review HRA 2008	• The proposed level of growth within the RSS is likely to increase local visitor pressure on the SAC. • Fragmentation of habitat from development pressure. • Deterioration in air quality associated with road traffic and energy generation.

Cumulative Impacts

The RSS Partial Review already identifies that Birklands and Bilhaugh SAC as currently suffering from recreational pressure (pg21). Proposed housing allocations identified within the RSS (17,190 dwellings) for Newark and Sherwood, and additional allocations for Worksop and Mansfield are also likely to increase this.

The Review identified that Nitrogen deposition is likely to worsen by development related increases in road traffic, waste management facilities which are located to the east of Mansfield and increased energy generation by biomass.
It may be necessary to carry out further air quality emissions modeling at the Appropriate Assessment Stage. Natural England's guidance document "The ecological effects of diffused air pollution from road transport Report 580" should be consulted.

Name of Plan	Issues which may need consideration
Bassetlaw Water Cycle Study Scoping Report July 2009	• Water abstraction may be an issue for Thorne and Hatfield Moors. Especially if additional water abstraction is needed to accommodate the level of growth proposed with the Bassetlaw district. • Ground water quality may be an issue with respect to increasing nitrate concentrations, which may be an issue with respect to increase nutrient levels for Thorne and Hatfield Moors. • Impacts of climate change on watercourses and water resources.

Cumulative Impacts

The human intervention on the 'water cycle'(abstraction, treatment and return to the natural system) has allowed us to manipulate this natural resource to suit our own needs, for development and growth. In order to facilitate this growth now and in the future there is a requirement for clean and treated water. The WCS has identified that there are two Major Aquifers

underlying Bassetlaw (Lower Magnesium Limestone and the Sherwood Sandstone). The more permeable forms (High vulnerability) are located to the West of the borough (adjacent to Doncaster MBC) within this area there are several Source Protection Zones (the area around the groundwater abstraction sources). Water abstraction is managed by the Environment Agency, through their Catchment Abstraction Management Strategies (CAMS) which provides an assessment of the water resource availability. Bassetlaw is located within the Idle and Thorne CAMS and has two Water Resource Management Units within its area WRMU2 (identified as 'Water Available') and WRMU4 (identified as 'Over Abstracted'). The Environment Agency has stated that in the Anglian Water Services area located in the east of the district lies within an area of 'serious water stress'. The Seven Trent located in the west of the district lies in an area of moderate stress (west) (pg23). The study identifies that "future growth cannot therefore rely on new local resources being developed and instead will have to rely on greater efficiency in water use from either existing local sources or regional resources schemes in neighbouring supply zones"

It is difficult to determine at this stage, what the cumulative effects of water abstraction for Bassetlaw's future supply will be. In retrospect, it would be prudent to examine any borehole data on the British Geological web site to establish the nearest water abstraction sources to Bassetlaw because if future supply is sought from the Sherwood Sandstone aquifer then this could potentially have a cumulative impact on Thorne and Hatfield Moors as this European site is largely dependent upon water levels.

Name of Plan	Issues which may need consideration
East Midlands Tourism Strategy	Increases in Day visits to European sites due to car ownership have increased which may also cause a decrease in air quality (road traffic emissions). This may produce a cumulative impact with increases in acid deposition and ozone levels. The Strategy Increases greater access 'Wild life appeal' which can have its own associated impacts with the disturbance of animals, often made worse by dogs, trampling vegetation, footpath erosion, wildfires, litter and pollution.

Cumulative Impacts

Tourism does not exist in isolation it has clear links with many other areas such as regeneration, inward investment, transport, culture and sustainability. The strategy highlights the importance of non car transport, and creating links to and from urban areas to minimise the environmental aspects of car use and parking in sensitive locations. The creation, improvement and enhancement of links to wildlife areas will make protected sites more accessible and to some extent, more vulnerable. The strategy also strongly

encourages other forms of transport such as walking, cycling and riding. However these activities although considered sustainable will also come with a degree of impact. Therefore, it should be identified how increasing visitor impacts as identified above will be managed on the European sites.

The key them through out the strategy are the enhancement of current assets. Such direction can create tensions and cumulative impacts between the desire to develop tourism and concerns to protect the natural environment. The strategy has identified a selection of key projects within the East Midlands region which have the greatest capability to grow tourism. The main project which is located within the Bassetlaw district is the Sherwood Forest Visitors Centre.

Name of Plan	Issues which may need consideration
Newark and Sherwood District Council Core Strategy Options Report (Appropriate Assessment) October 2009	The focus of the Newark and Sherwood Core Strategy Appropriate Assessment was restricted to impacts on the Birklands and Bilhaugh SAC as this was the only European site within15km of their local authority boundary. The assessment highlighted potential impacts associated with the levels of growth proposed by the Newark and Sherwood Core Strategy. The identified impacts are; • Water abstraction associated with the proposed levels of housing growth. • Impact on existing air quality, as existing air pollution has already resulted in a decrease in lichen diversity within the Birklands and Bilhaugh SAC. • Additional recreational pressure as Birklands and Bilhaugh SAC is located within Sherwood Forest.

Cumulative Impacts

The principal locations for projected growth within Newark and Sherwood is the main settlements (All major settlements are located within 20 km of Sherwood Forest which includes Birklands and Billhaugh). The proposed levels of housing growth is likely to give rise to cumulative impacts especially from additional recreational pressure, coupled with the regional popularity of Sherwood Forest as a tourist attraction. It may be necessary to consider how to reduce visitor pressure to the wider area through mitigation.

The Appropriate Assessment concluded that the existing background concentrations of pollution (NOx, NO2, PM10 and Nitrogen deposition rates) have decreased since 2005. However, nitrogen deposition rates are still in excess of the critical load for the SAC

(10- 20). The assessment makes assumptions that air quality issues will be subject to appropriate mitigation to minimise their impacts on the European sites (para 4.210). However, it is suggested that where possible other potential point source polluters (power stations, strategic waste sites, industry) should be identified earlier in the process to address the cumulative impact of air quality and in particular Nitrogen Deposition rates.

The new proposed Regional Park and relocation of Sherwood Forest Visitors Centre (see Tourism section above) is being promoted across several authorities and will encourage visitors throughout the region and will undoubtedly attract more people by car. The Newark and Sherwood AA states " it is not possible to say at this stage what impacts the Regional park will have on the SAC. The Core Strategy supports this regional initiative but is made contingent upon the promoters demonstrating that there will be not harm on the SAC. It may be necessary for Bassetlaw to adopt the same approach in the interest of consistency.

Name of Plan	Issues which may need consideration
Nottinghamshire and Nottingham Waste Core Strategy and Development Control Policies October 2006	Nottinghamshire County and City Council are responsible for dealing with waste within the Nottinghamshire area which includes the Bassetlaw District. The purpose of the plan is to ensure that there are enough waste sites to recycle, recover, or dispose of waste within the plan period. ▪ Environmental affects of managing various waste streams (types of waste) ▪ Using various waste treatments (landfill, In vessel composting, Incineration etc) some of which can have significant environmental impacts upon the natural environment, and potentially European sites dependant upon their proximity to protected sites and the type of process involved.

Cumulative Impacts

The key principles of the Core Strategy are to promote a sustainable pattern of waste Management. This includes providing the right type of waste facility in the right place, balancing issues of need with environmental protection, and where possible environmental enhancement. (pg 5) All waste within the Nottinghamshire area must be managed in accordance with the 'waste hierarchy' (reduce, reuse, recycle, recover and disposal).

Future waste projections suggest that Nottinghamshire will need to allocated land for more waste facilities to meet predicted future

needs beyond 2016 or 2021. At present within the Core Strategy Issues and options document there is no preferred approach the processing of waste or waste treatment.

Nottinghamshire already has an existing incinerator located at Eastcroft which recovers energy from 150,000 tonnes of Municipal Waste each year. There is also a proposal for an additional incinerator in North Nottinghamshire (linked to their waste management contract). It is difficult to assess what the cumulative impacts of both the existing and any proposed waste treatment facilities, will be until additional information is available about how the County intends to deal with their waste strategically (e.g. develop a strategic resource recovery park or allocate extensions to existing sites). It is suggested that further consultation with Nottinghamshire County will be able to ascertain any potential impacts on air quality and acid deposition for Birklands and Bilhaugh and Thorne and Hatfield Moors as their Appropriate Assessment of the Waste Core Strategy should have addressed these issues.

Name of Plan	Issues which may need consideration
Bassetlaw Strategic Flood Risk Assessment July 2009	• Fluvial Flooding (from watercourses) in the Bassetlaw area. • The flow direction and depth of flooding. Other forms of flooding such as overland flow, surcharged under capacity or blocked sewers. (V1pg19) • Climate Change increasing the instances and consequences of flooding.

Cumulative Impacts

Bassetlaw's SFRA identifies that the Birklands and Bilhaugh site is not located within a flood risk area. The Ordnance and Survey Maps show that the site is elevated from surrounding land by at least 30 metres. The Environment Agencies Flood maps for the Edwinstowe area show that the site is located to the North of the River Maun. Even with events of extreme flooding from the River Maun it is considered that the site will not be affected by flooding due to its elevated position.

Name of Plan	Issues which may need consideration
North Nottinghamshire Local Transport Plan	Bassetlaw District Council is not a transport authority and as such Nottinghamshire County Council has overall responsibility for public highways. The transport plan is the five year blue print for transport in the north of Nottingham from 2006 to 2011. The most significant impact which will occur during the plan period is the projected

	increase in road traffic levels. For the plan period above it is expected to increase by 8%. Such increases will lead to traffic congestion and Co2 emissions which will contribute to Climate Change.
Cumulative Impacts	
Transport analysis within the Local Transport Plan shows that demand for public transport is lowest in rural areas where there are large percentages of car ownership. Analysis within the Local Transport Plan shows that there are significant areas in rural Bassetlaw where demand for public transport may not be high enough to justify the provision of commercial services, but were there is still a demand for some form of public transport. Various air pollutants are monitored regularly through the plan area, to ensure that they do not exceed air quality objectives. The results of recent air quality modelling (contained in the LTP) for Workshop and its Hinterland have resulted in no Air Quality Management Areas being declared to date. However, the challenge of accessibility and transport choice as mentioned above for such rural areas may have a cumulative impact on air quality in the future, when one considers the level of planned growth proposed by the East Midlands RSS (housing and employment) which is projected beyond the current provision of the Transport Plan towards 2026. As previously stated Transport can have a significant impact upon air quality and consequently the integrity of both the European sites. Therefore, it is suggested that the Strategic Environmental Assessment of the next Transport Plan (LTP3) should be consulted, in order to establish was impacts air quality will have.	
Name of Plan	Issues which may need consideration
Nottinghamshire Air quality Strategy	Pollutants arise from point source pollution such as power stations, and traffic. Other important sources of air pollutants include industrial processes and domestic combustion. 2.
Cumulative Impacts	
Contributions to air quality emissions in Nottingham County are dominated by the Trent Valley power stations which include West Burton, Cottam, High Marnham and to a lesser extent Ratcliffe on Soar.	

Whilst emissions from Power Stations have reduced from 1997 levels due to lower loading patterns adopted by the stations and flu gas desulphurization. The Strategy identifies that Sulphur dioxide (SO_2) is the dominant pollutant released in Nottinghamshire because of emissions from the power stations. Pollution can present a wide range of impacts and pressures on the Natural environment. Emissions of Sulphur can lead to acid deposition and such emissions combined with other existing and proposed point source polluters can cause cumulative impacts on air quality and acid deposition,

Name of Plan	Issues which may need consideration
North Lincolnshire Core Strategy Preferred Options Appropriate Assessment	▪ Impact upon bird population and loss of habitat from wind farm development ▪ Changes in the water environment/ loss of habitat as a result of mineral extraction (pumping). ▪ Impacts associated with housing development (loss of habitat, water abstraction, increased recreation, and air quality)

Cumulative Impacts

The policy within the Core Strategy which promotes housing expansion to Market towns which could include Crowle will have the potential to cumulatively impact upon Thorne & Hatfield Moors SPA as the northwest area of Crowle is approximately 1.3km away from the Moors. If housing expansion is planned for this area on agricultural land there is a significant chance that such development may result in loss of Nightjar Foraging and nesting Habitat and increased recreation pressure on the site from visitors and associated disturbance. The Lincolnshire Core Strategy promotes renewable energy and the Appropriate Assessment has identified that North Lincolnshire has been identified as having suitable landscape for supporting 'highly productive wind farms.' The cumulative impact on the Moors could result in loss of habitat especially at the construction phase, and may cause disturbance from noise and vibration, Natural England's opinion should be sought on this issue. Mineral extraction is also considered with the plan and such development can have similar cumulative impacts as renewable energy.

Name of Plan	Issues which may need consideration
West Lindsey Core Strategy.	The proposed level of growth for the West Lindsey area could have potential cumulative impacts for Bassetlaw Council. However, based on an agreement to change to a Joint Local Development Framework approach with the City of Lincoln, North Kesteven and Lincolnshire County Councils work on the **production of a West**

	Lindsey Core Strategy has stopped.
Cumulative Impacts	
The Joint Local Development Framework and proposed levels of growth (housing, employment, transport, tourism and industrial) will need to be considered in order to determine the cumulative impacts for the Bassetlaw Core Strategy. At this time it has not been possible to establish what if any cumulative impacts may be as no information is available on the Joint Local Development Framework.	
Name of Plan	Issues which may need consideration
Rotherham Metropolitan Borough Council Core Strategy Revised Options Sustainability Appraisal.	The Rotherham Core Strategy is currently still at the options stage there for it is difficult to determine what issues may arise without a confident direction towards the preferred option.
Cumulative Impacts	
Name of Plan	Issues which may need consideration
Doncaster Metropolitan Borough Council Core Strategy Consultation Draft Appropriate Assessment 2008.	The Doncaster Core Strategy Consultation Draft Appropriate Assessment identified the following significant effects; ▪ Physical damage from water abstraction due to the proposed levels of housing and employment growth. ▪ Physical damage and disturbance from increased recreation. ▪ Air pollution
Cumulative Impacts	
The bog habitats for which Hatfield Moor SAC/SPA is designated are sensitive to ground water abstraction and particularly dependent on the maintenance of ground water levels within the Sherwood Sandstone Aquifer. It was concluded that the site integrity would not be threatened by water abstraction over the plan period, as Yorkshire Water have confirmed that there is sufficient water resources to accommodate the planned growth throughout the plan period. In addition, the Environment Agency have confirmed that the Sherwood Sandstone aquifer is closed to abstraction licensing in the region and any new abstraction will	

be subject to the Habitats Regulation to ensure no adverse impact upon Natural 2000 sites. As with most Nature reserves, Thorne and Hatfield Moors is a popular visitor attraction and as such, is sensitive to impacts associated with increases in recreation. Policies which encourage tourism and increase visitor numbers (significant housing/employment growth) have the potential to adversely affect the integrity of the sites. However, Doncaster's Appropriate Assessment has concluded that the Rights of Way Improvement Plan, Green Infrastructure policy, and Open Access Management Plan for the Moors will prevent such threats associated with recreation. Policies within the Doncaster Core Strategy have the potential to create impacts with respect to air pollution. At present the UK Air Pollution Information System (APIS) states that levels of acid deposition and nitrogen deposition for the sites (Thorne and Hatfield Moors) currently exceed critical thresholds. Therefore, give the current trend (levels are at critical thresholds) it can be assumed that there will be cumulative impacts as a result of Doncaster's Core Strategy as emissions are likely to increase with the proposed level of growth.

Name of Plan	Issues which may need consideration
A Vision of the Future for Sherwood Forest	The document sets out a series of visions for how the habitats around the Sherwood area will develop over the next 50 years.
Cumulative Impacts	
Realisation of the vision will see a landscape scale increase in the areas of heathland, scrub, mire, woodland and acid grassland habitats present in the region. This will aid movement of species around the habitat network and help to provide a greater resilience to the impacts of climate change. If this vision is incorporated into the plan for the Bassetlaw region, then it would be likely to result in a positive impact on the conservation status of the Birklands and Bilhaugh SAC.	