Nottinghamshire Local Transport Plan

Habitats Regulations Assessment – Screening Report

Final Report
March 2011




Nottinghamshire County Council

Revision Schedule

HRA Screening Report
March 2011

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1 Introduction

1.1 Legislation

1.1.1 The need for Appropriate Assessment is set out within Article 6 of the EC Habitats Directive 1992, and interpreted into British law by the Conservation of Habitats and Species Regulations 2010. The ultimate aim of the Directive is to "*maintain or restore, at favourable conservation status, natural habitats and species of wild fauna and flora of Community interest"* (Habitats Directive, Article 2(2)). This aim relates to habitats and species, not the European sites themselves, although the sites have a significant role in delivering favourable conservation status.

1.1.2 The Habitats Directive applies the precautionary principle to European sites. Plans and projects can only be permitted having ascertained that there will be no adverse effect on the integrity of the site(s) in question. Plans and projects with predicted adverse impacts on European sites may still be permitted if there are no alternatives to them and there are Imperative Reasons of Overriding Public Interest (IROPI) as to why they should go ahead. In such cases, compensation would be necessary to ensure the overall integrity of the site network.

1.1.3 In order to ascertain whether or not site integrity will be affected, a HRA should be undertaken of the plan or project in question.

Box 1 The legislative basis for Habitats Regulations Assessment

Habitats Directive 1992

"*Any plan or project not directly connected with or necessary to the management of the site but likely to have a significant effect thereon, either individually or in combination with other plans or projects, shall be subject to appropriate assessment of its implications for the site in view of the site's conservation objectives.*"

Article 6 (3)

Conservation of Habitats & Species Regulations 2010

"*A competent authority, before deciding to … give any consent for a plan or project which is likely to have a significant effect on a European site … shall make an appropriate assessment of the implications for the site in view of that sites conservation objectives … The authority shall agree to the plan or project only after having ascertained that it will not adversely affect the integrity of the European site*".

1.1.4 Over the years the phrase 'Habitats Regulations Assessment' (HRA) has come into wide currency to describe the overall process set out in the Conservation of Habitats and Species Regulations from screening through to Imperative Reasons of Overriding Public Interest (IROPI). This has arisen in order to distinguish the process from the individual stage described in the law as an 'appropriate assessment'. Throughout this report we use the term Habitat Regulations Assessment for the overall process and restrict the use of Appropriate Assessment to the specific stage of that name.

1.2 Local Transport Plans

1.2.1 The Local Transport Plan (LTP) is a mechanism by which local transport authorities work with their stakeholders to strengthen their place-shaping role and their delivery of services to the community. The LTP should consider the transport needs of both people and freight and should aim to improve transport services as well as the maintenance, operation, management and best use of the assets necessary for transport delivery, within the context of tightening environmental constraints[1].

1.2.2 The Transport Act 2000[2] introduced a statutory requirement for local transport authorities to produce an LTP every five years and to keep it under review. The Local Transport Act 2008[3] retains the statutory requirement to produce and review Local Transport Plans and policies. The Act requires that LTPs contain all of an authority's policies and delivery plans relating to transport, explaining how these contribute to the wider local agenda.

1.2.3 Nottinghamshire County Council as a local transport authority has existing Local Transport Plans, for North Nottinghamshire and for Greater Nottingham, each covering a period of five years. The third Local Transport Plan (LTP3), currently in preparation, will run from April 2011 to March 2026 and is the subject of this document.

1.3 Scope and objectives

1.3.1 URS/Scott Wilson has been appointed by Nottinghamshire County Council to assist in undertaking a Habitats Regulations Assessment (HRA) of the potential effects of its third Local Transport Plan (LTP3) on the Natura 2000 network. The Council has issued a consultation document on the LTP3, and this document is the subject of this Screening exercise.

1.3.2 Chapter 2 explains the process by which the HRA as a whole will be carried out. Chapter 3 explores the relevant pathways of impact and the criteria on which options within the LTP will be screened in or out of assessment. Chapter 4 details the screening exercise undertaken and the conclusions arrived at. The baseline information available for European sites that have been taken into account during the HRA is provided in an Appendix.

[1] Department for Transport (2009). *Guidance on Local Transport Plans* [online] available at: http://www.dft.gov.uk/adobepdf/165237/ltp-guidance.pdf (accessed 16 June 2010)
[2] Available online at: http://www.opsi.gov.uk/acts/acts2000/ukpga_20000038_en_1 (accessed 16 June 2010)
[3] Available online at: http://www.opsi.gov.uk/acts/acts2008/ukpga_20080026_en_1 (accessed 16 June 2010)

2 Methodology

2.1 Key principles

2.1.1 This section sets out the basis of the methodology for the HRA. URS/Scott Wilson has adhered to several key principles in developing the methodology – see Table 1.

Table 1 - Key principles underpinning the proposed methodology

Principle	Rationale
Use existing information	We will use existing information to inform the assessment. This will include information published within existing HRAs (such as those for produced for LDFs), and information held by Natural England, the Environment Agency and others.
Consult with Natural England, the Environment Agency and other stakeholders	We will ensure continued consultation with both Natural England and the Environment Agency for the duration of the assessment. We will ensure that we utilise information held by them and others and take on board their comments on the assessment process and findings.
Ensure a proportionate assessment	We will ensure that the level of detail addressed in the assessment reflects the level of detail in the LTP (i.e. that the assessment is proportionate).
Keep the process simple as possible	We will endeavour to keep the process as simple as possible while ensuring an objective and rigorous assessment in compliance with the Habitats Directive and emerging best practice.
Ensure a clear audit trail	We will ensure that the HRA process and findings are clearly documented in order to ensure a clearly discernible audit trail.

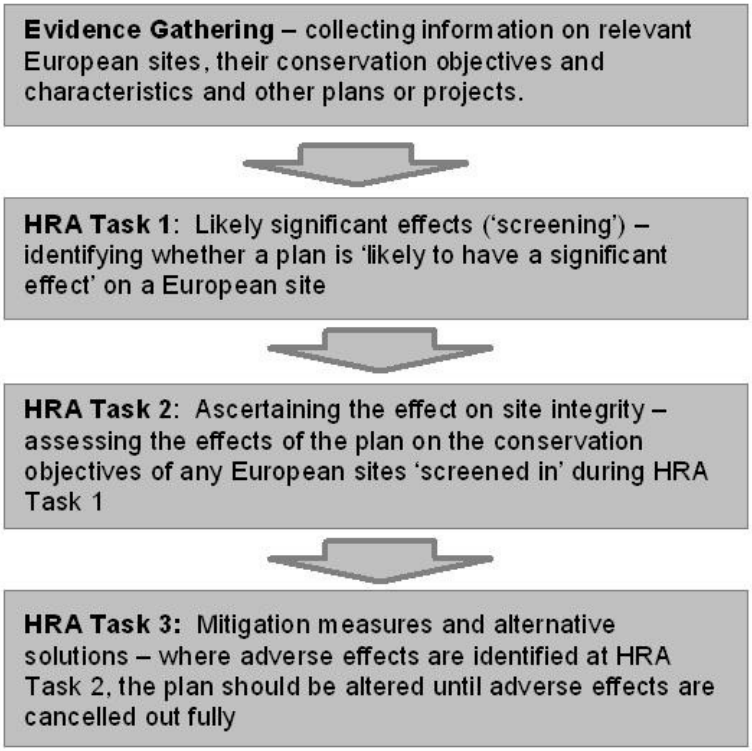
2.2 Process

2.2.1 The HRA has been carried out in the continuing absence of formal central Government guidance. The former Department of Communities and Local Government released a consultation paper on the Appropriate Assessment of Plans in 2006[4]. As yet, no further formal guidance has emerged. However, Natural England has produced its own internal guidance[5] as has the RSPB[6]. Both of these have been referred to alongside the guidance outlined in section 1.1.3 in undertaking this HRA.

2.2.2 Figure 1 below outlines the stages of HRA according to current draft CLG guidance. The stages are essentially iterative, being revisited as necessary in response to more detailed information, recommendations and any relevant changes to the plan until no significant adverse effects remain.

[4] CLG (2006) Planning for the Protection of European Sites, Consultation Paper
[5] http://www.ukmpas.org/pdf/practical_guidance/HRGN1.pdf
[6] Dodd A.M., Cleary B.E., Dawkins J.S., Byron H.J., Palframan L.J. and Williams G.M. (2007) *The Appropriate Assessment of Spatial Plans in England: a guide to why, when and how to do it.* The RSPB, Sandy.

Figure 1 - Four-Stage Approach to Habitat Regulations Assessment
Source: CLG, 2006



2.3 Likely Significant Effects (LSE)

2.3.1 The first stage of any Habitat Regulations Assessment (HRA Task 1) is a Likely Significant Effect (LSE) test - essentially a risk assessment to decide whether the full subsequent stage known as Appropriate Assessment (HRA Tasks 2 and 3) is required. The essential question is:

2.3.2 "Is the Plan, either alone or in combination with other relevant projects and plans, likely to result in a significant effect upon European sites?"

2.3.3 The objective is to 'screen out' those plans and projects that can, without any detailed appraisal, be said to be unlikely to result in significant adverse effects upon European sites, usually because there is no mechanism or pathway for an adverse interaction with European sites.

2.3.4 That screening assessment is the subject of this report.

2.4 Physical scope of the assessment

2.4.1 There is no formal guidance that dictates the physical scope of an HRA of a land use or transport plan. Therefore, in considering the physical scope of the assessment, we will be guided by the identified impact pathways rather than by arbitrary 'zones'. Best practice suggests that the following European sites be included in the scope of assessment:

- all sites within the authority's boundary; and
- other sites shown to be linked to development within the authority's boundary through a known 'pathway' (discussed below).

2.4.2 Briefly defined, pathways are routes by which a change in activity within Nottinghamshire can lead to an effect upon a European site. In terms of the second category of European site listed above, CLG guidance states that the HRA should be '*proportionate to the geographical scope of the* [plan policy]'. All sites mentioned in this section are shown on Figure 3.

2.4.3 The following European site lies within Nottinghamshire:

- **Birklands and Bilhaugh SAC** (approximately 8km north-east of Mansfield)

2.4.4 The Following European sites lie, at their closest point, 2.5km north of the borders of Nottinghamshire:

- **Hatfield Moor SAC** - although the A614 from Nottinghamshire passes west of the site, at its closest point it is 400m distant, and so there is no mechanism by which the Nottinghamshire LTP could lead to adverse effects of air pollution on this SAC either alone or in combination with other plans and projects; and
- **Thorne and Hatfield Moors SPA** - although the A614 from Nottinghamshire passes west of the site, at its closest point it is 600m distant, and so there is no mechanism by which the Nottinghamshire LTP could lead to adverse effects of air pollution on this SPA either alone or in combination with other plans and projects. Noise pollution can be ruled out of consideration since policies contained within the LTP are unlikely to lead to significant traffic noise increases on the A614 outside of the county, and in any case the SPA at its closest point, is 600m from this road.

2.4.5 Hatfield Moor SAC and Thorne and Hatfield Moors SPA are therefore scoped out of further consideration.

2.4.6 Additionally, as part of an ongoing UK SPA Review process, Sherwood Forest has been identified as potentially qualifying for SPA designation. As yet, no boundaries for this potential SPA have been determined, but current indicative qualifying areas[7] all lie within Nottinghamshire. PPS9 directs local authorities to treat European sites, even when subject to consultation, or proposed but not confirmed, as if they were already designated.

2.4.7 This European site is therefore automatically included with the scope of the HRA (at least at screening) and are subject to consideration within this document as to whether they could have links with development within Nottinghamshire via pathways as described in Chapter 3. At this

[7] http://planning.newark-sherwooddc.gov.uk/ppimageupload/holding/Image92682.PDF

stage no further sites outside Nottinghamshire have been identified as being connected with the emerging LTP by a relevant pathway.

2.4.8 In undertaking this HRA screening exercise we have referred to Natural England's two previous consultation responses with regard to SEA Scoping (letters dated 20/09/10 and 16/11/10) in addition to the Natural England 'Advice Note to Local Planning Authorities Regarding the Consideration of Effects on the Breeding Population of Nightjar and Woodlark in the Sherwood Forest Region' dated June 2010.

2.4.9 As the full SPA selection process has yet to be formally implemented and the formal UK Review of the existing suite of sites for nightjar and woodlark is pending, Natural England has not yet formed a view on whether a site within the Sherwood Forest region is one of the most suitable territories for these species (i.e. even though 1% of the UK breeding population may occur, this may not be considered an optimal site to receive SPA status). The prospect of a new European Site being designated in the District is considered by Natural England to warrant a contingency based approach in line with PPS12 (Local Spatial Planning)[8]. We have followed that approach with regard to this HRA report.

[8] http://planning.newark-sherwooddc.gov.uk/ppimageupload/holding/Image92681.PDF

3 Pathways of Impact

3.1 Introduction

3.1.1 This section of the report summarises the various impact pathways that could link the Nottinghamshire LTP with European sites.

3.2 Air Quality

3.2.1 The National Expert Group on Trans-boundary Air Pollution (2001)[9] concluded that:

- In 1997, critical loads for acidification were exceeded in 71% of UK ecosystems. This was expected to decline to 47% by 2010.
- Reductions in SO_2 concentrations over the last three decades have virtually eliminated the direct impact of sulphur on vegetation.
- By 2010, deposited nitrogen was expected to be the major contributor to acidification, replacing the reductions in SO_2.
- Current nitrogen deposition is probably already changing species composition in many nutrient-poor habitats, and these changes may not readily be reversed.
- The effects of nitrogen deposition are likely to remain significant beyond 2010.
- Current ozone concentrations threaten crops and forest production nationally. The effects of ozone deposition are likely to remain significant beyond 2010.
- Reduced inputs of acidity and nitrogen from the atmosphere may provide the conditions in which chemical and biological recovery from previous air pollution impacts can begin, but the timescales of these processes are very long relative to the timescales of reductions in emissions.

3.2.2 Grice *et al*[10] [11] do however suggest that air quality in the UK will improve significantly to 2020 due primarily to reduced emissions from road transport and power stations.

[9] National Expert Group on Transboundary Air Pollution (2001) *Transboundary Air Pollution: Acidification, Eutrophication and Ground-Level Ozone in the UK*
[10] Grice, S., T. Bush, J. Stedman, K. Vincent, A. Kent, J. Targa and M. Hobson (2006) *Baseline Projections of Air Quality in the UK for the 2006 Review of the Air Quality Strategy*, report to the Department for Environment, Food and Rural Affairs, Welsh Assembly Government, the Scottish Executive and the Department of the Environment for Northern Ireland.
[11] Grice, S., J. Stedman, T. Murrells and M. Hobson (2007) *Updated Projections of Air Quality in the UK for Base Case and Additional Measures for the Air Quality Strategy for England, Scotland, Wales and Northern Ireland 2007*, report to the Department for Environment, Food and Rural Affairs, Welsh Assembly Government, the Scottish Executive and the Department of the Environment for Northern Ireland.

Table 2 - Main sources and effects of air pollutants on habitats and species

Pollutant	Source	Effects on habitats and species
Acid deposition	SO_2, NOx and ammonia all contribute to acid deposition. Although future trends in S emissions and subsequent deposition to terrestrial and aquatic ecosystems will continue to decline, it is likely that increased N emissions may cancel out any gains produced by reduced S levels.	Can affect habitats and species through both wet (acid rain) and dry deposition. Some sites will be more at risk than others depending on soil type, bed rock geology, weathering rate and buffering capacity.
Ammonia (NH_3)	Ammonia is released following decomposition and volatilisation of animal wastes. It is a naturally occurring trace gas, but levels have increased considerably with expansion in numbers of agricultural livestock. Ammonia reacts with acid pollutants such as the products of SO_2 and NO_X emissions to produce fine ammonium (NH_4+) - containing aerosol which may be transferred much longer distances (can therefore be a significant trans-boundary issue.) Catalytic converters on vehicles are also a significant and increasing source of ammonia and are now calculated to amount to about 10% of UK emissions, although this can rise to 70-80% of the total NH_3 in urban centres. With regard to the effects on habitats and species, recent research[12] has shown that, because of its high deposition velocity, NH_3 can contribute around half of the total N deposition within the first few metres of busy roadsides.	Adverse effects are as a result of nitrogen deposition leading to eutrophication. As emissions mostly occur at ground level in the rural environment and NH_3 is rapidly deposited, some of the most acute problems of NH_3 deposition are for small relict nature reserves located in intensive agricultural landscapes.
Nitrogen oxides NO_x	Nitrogen oxides are mostly produced in combustion processes. About one quarter of the UK's emissions are from power stations, one-half from motor vehicles, and the rest from other industrial and domestic combustion processes.	Deposition of nitrogen compounds (nitrates (NO_3), nitrogen dioxide (NO_2) and nitric acid (HNO_3)) can lead to both soil and freshwater acidification. In addition, NO_x can cause eutrophication of soils and water. This alters the species composition of plant communities and can eliminate sensitive species.
Nitrogen (N) deposition	The pollutants that contribute to nitrogen deposition derive mainly from NO_X and NH_3 emissions. These pollutants cause acidification (see also acid deposition) as well as eutrophication.	Species-rich plant communities with relatively high proportions of slow-growing perennial species and bryophytes are most at risk from N eutrophication, due to its promotion of competitive and invasive species which can respond readily to elevated levels of N. N deposition can also increase the risk of damage from abiotic factors, e.g. drought and frost.

[12] J.N. Cape, et al. 2004. Concentrations of ammonia and nitrogen dioxide at roadside verges, and their contribution to nitrogen deposition. Environmental Pollution 132 (2004) 469–478

Pollutant	Source	Effects on habitats and species
Ozone (O_3)	A secondary pollutant generated by photochemical reactions from NO_x and volatile organic compounds (VOCs). These are mainly released by the combustion of fossil fuels. The increase in combustion of fossil fuels in the UK has led to a large increase in background ozone concentration, leading to an increased number of days when levels across the region are above 40ppb. Reducing ozone pollution is believed to require action at international level to reduce levels of the precursors that form ozone.	Concentrations of O_3 above 40 ppb can be toxic to humans and wildlife, and can affect buildings. Increased ozone concentrations may lead to a reduction in growth of agricultural crops, decreased forest production and altered species composition in semi-natural plant communities.
Sulphur Dioxide SO_2	Main sources of SO_2 emissions are electricity generation, industry and domestic fuel combustion. May also arise from shipping and increased atmospheric concentrations in busy ports. Total SO_2 emissions have decreased substantially in the UK since the 1980s.	Wet and dry deposition of SO_2 acidifies soils and freshwater, and alters the species composition of plant and associated animal communities. The significance of impacts depends on levels of deposition and the buffering capacity of soils.

3.2.3 For the following reasons, only NOx and ammonia (NH_3) are considered further as specific pollutants in this assessment:

- Despite the general association with nitrogen dioxide, ozone levels are not as high in urban areas (where high levels of nitrogen dioxide are emitted) as in rural areas. This is largely due to the long-range nature of this pollutant, which is sufficiently great that the source of emission and location of deposition often cross national boundaries. As such, low-level ozone can only be practically addressed at the national and international level.
- Sulphur dioxide concentrations are overwhelmingly influenced (82% of emissions[13]) by the output of power stations and industrial processes that require the combustion of coal and oil. None of these activities will be associated with developments under the LTP. Road transport sources make a negligible contribution to sulphur dioxide emissions.

3.2.4 Therefore the main pollutants of concern for European sites from the LTP are oxides of nitrogen (NOx) and ammonia (NH_3).

- NOx emissions are dominated by the output of vehicle exhausts (more than half of all emissions). Other sources, although relevant, are of minor importance (8%) in comparison[14]. NOx can have a directly toxic effect upon vegetation. In addition, greater NOx or ammonia concentrations within the atmosphere will lead to greater rates of nitrogen deposition to soils. An increase in the deposition of nitrogen from the atmosphere to soils is generally regarded to lead to an increase in soil fertility, which can have a serious deleterious effect on the quality of semi-natural, nitrogen-limited terrestrial habitats.
- Since ammonia is of relevance to European sites primarily through its effect upon nitrogen deposition, it is not considered independently of nitrogen deposition in this assessment. Conversely, since NOx can be directly toxic to plants, it is also considered separately from its influence on nitrogen deposition in this assessment.

[13] Dore CJ *et al.* (2005). UK Emissions of Air Pollutants 1970 – 2003. UK National Atmospheric Emissions Inventory. http://www.airquality.co.uk/archive/index.php
[14] Proportions calculated based upon data presented in Dore CJ *et al.* (2005). UK Emissions of Air Pollutants 1970 – 2003. UK National Atmospheric Emissions Inventory. http://www.airquality.co.uk/archive/index.php

Oxides of nitrogen and nitrogen deposition

3.2.5 The most acute impacts of NOx take place close to where they are emitted, but individual sources of pollution will also contribute to an increase in the general background levels of pollutants at a wider scale, as small amounts of NOx and other pollutants from the pollution source are dispersed more widely by the prevailing winds.

3.2.6 The main sources of NOx in the UK are[15]:

- Road and other transport (approximately 47%; greater in urban areas);
- Public power generation using fossil fuels (22%).
- Combustion in industrial processes16 (14%).
- Domestic and commercial sources (4%), e.g. commercial boilers in schools, hospitals etc.

3.2.7 The following air pollution limit value applies for the protection of vegetation and ecosystems from NOx:

- World Health Organisation 30 μgm^{-3} annual average; EU Air Quality Framework Directive 30 μgm^{-3} annual average away from areas close to main roads, built up areas or major industrial sites; Natural England policy in agreement with the Environment Agency in their Review of Consents process is that the 30 μgm^{-3} threshold should apply to all designated sites, due to the sensitivity of the habitats within the sites.

Eutrophication

3.2.8 Eutrophication of sensitive habitats through atmospheric deposition is a widely acknowledged phenomenon, although it is extremely difficult to measure as its effects are often hidden by changes in local nutrients (i.e. via direct fertilisation) or changes in management, such as grazing pressure.

3.2.9 In well-managed sites, the effects of eutrophication may be to some extent counteracted through an increase in grazing pressure. Bobbink *et al.*[17] suggest that sites with low intensity management may have lower critical thresholds than those in higher levels of management. Reintroducing grazing into ungrazed or under-grazed sites can help to counteract changes in vegetation due to nitrogen deposition; however increasing grazing on sites that are already well-grazed may have a direct adverse impact on the plants for which the site was designated.

3.2.10 Furthermore, air pollution can act synergistically with insufficient grazing to exacerbate management problems and lead to a coarser species-poor sward. A changing climate (i.e. rising temperatures and reduced summer rainfall) is further exacerbating the situation by putting sensitive habitats and species under increasing stress, in turn reducing their competitive ability and increasing susceptibility to pathogens.

Road transport exhaust emissions

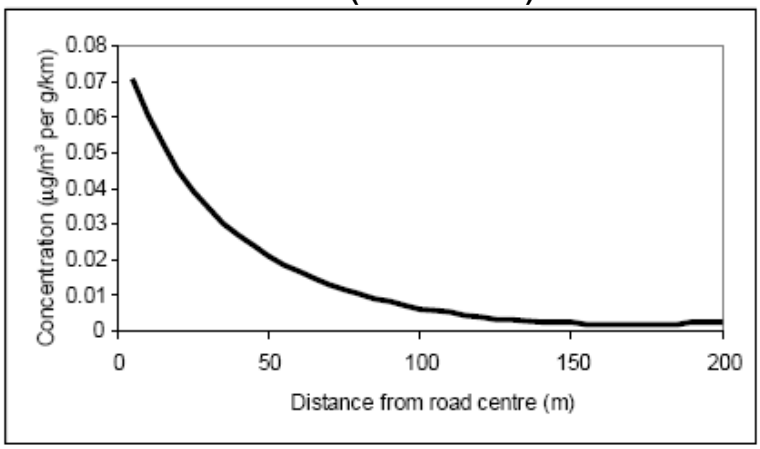
3.2.11 Throughout the HRA we intend to work on the basis that an increase in rail usage means the potential for a decrease in cars and HGV's and is therefore a positive step for air quality. The

[15] Dore CJ *et al.* (2005). UK Emissions of Air Pollutants 1970 – 2003. UK National Atmospheric Emissions Inventory. http://www.airquality.co.uk/archive/index.php
[16] Combustion of coal and oil, some refinery processes and the production of sulphuric acid and other chemicals
[17] Bobbink, Ashmore, Braun, Fluckiger and Vanden Wyngaert. 2002. Work on critical loads for natural and semi-natural systems ("*Empirical nitrogen critical loads for natural and semi-natural ecosystems 2002 update*")

Department of Transport have made the following comment on air quality issues as they relate to the transfer of freight movements from road to rail, which supports the approach we intend to take: "*It should be noted that in terms of total transport emissions, rail transport accounts for less than 1% of the total. Therefore, even with the most rail orientated transport options, perhaps doubling the rail kilometres, the potential for any significant impact on emissions will lie mainly with the saving in emissions from road transport brought about by modal transfer, rather than those generated by rail. Hence, it is suggested that emissions from rail sources can be scoped out in most cases*"[18].

3.2.12 According to the Department of Transport's Transport Analysis Guidance, "*Beyond 200m, the contribution of vehicle emissions from the roadside to local pollution levels is not significant*" [19].

Figure 2 – Traffic contribution to concentrations of pollutants at different distances from a road (Source: DfT)



3.2.13 This is therefore the distance that we intend to use throughout the HRA in order to determine whether European sites are likely to be significantly affected by development under the Local Transport Plan.

Diffuse air pollution

3.2.14 In addition to the contribution to local air quality issues, development can also contribute cumulatively to an overall deterioration in background air quality across an entire region. In July 2006, when this issue was raised by Runnymede District Council in the South East, Natural England advised that their Local Development Framework *'can only be concerned with locally emitted and short range locally acting pollutants'* [20] as this is the only scale which falls within a local authority remit. This guidance inevitably sets a precedent, since (as far as we are aware) it is the only formal guidance that has been issued to a Local Authority from any Natural England office on this issue.

3.2.15 In the light of this and our own knowledge and experience, it is considered reasonable to conclude that diffuse pan-authority air quality impacts are the responsibility of national government, both since they relate to the overall quantum of development within a region (over which individual local authorities have little control), and since this issue is best addressed at the

[18] Department of Transport (2004). Transport Analysis Guidance: Regional Air Pollution. www.webtag.org.uk/archive/feb04/pdf/feb04-333.pdf
[19] www.webtag.org.uk/archive/feb04/pdf/feb04-333.pdf
[20] English Nature (16 May 2006) letter to Runnymede Borough Council, 'Conservation (Natural Habitats &c.) Regulations 1994, Runnymede Borough Council Local Development Framework'.

highest pan-authority level. Diffuse air quality issues will not therefore be considered further within this HRA. The exception would be where any of the schemes/measures that are devised as part of the LTP are likely to increase traffic (either number of vehicles, or congestion or proportion of HGVs) within 200m of European sites outside the county boundary.

3.3 Disturbance

3.3.1 An increase of 25% in traffic volumes is required to lead to a 1 decibel increase in noise levels. As such, a fairly substantial increase in vehicle movements is required to cause a perceptible change in noise. Significant increases in roadside lighting in close proximity to European sites can also lead to disturbance of nocturnal species. With regard to HRA, noise and lighting will only be an issue if they affect European sites designated for their animal interest rather than their habitats. With regard to the Nottinghamshire Local Transport Plan this applies to one potential European site (Sherwood Forest SPA) that we include within the scope of the HRA.

3.3.2 Concern regarding the effects of disturbance on birds stems from the fact that they are expending energy unnecessarily and the time they spend responding to disturbance is time that is not spent feeding[21]. Disturbance therefore risks increasing energetic output while reducing energetic input, which can adversely affect the 'condition' and ultimately survival of the birds. In addition, displacement of birds from one feeding site to others can increase the pressure on the resources available within the remaining sites, as they have to sustain a greater number of birds.[22] Moreover, the more time a breeding bird spend disturbed from its nest, the more its eggs are likely to cool and the more vulnerable they, or young birds, are to predators.

3.3.3 Disturbing activities are on a continuum. The most disturbing activities are likely to be those that involve irregular, infrequent, unpredictable loud noise events, movement or vibration of long duration. Birds are least likely to be disturbed by activities that involve regular, frequent, predictable, quiet patterns of sound or movement or minimal vibration. The further any activity is from the birds, the less likely it is to result in disturbance.

3.3.4 The degree of impact that varying levels of noise will have on different species of bird is poorly understood except that a number of studies have found that an increase in traffic levels on roads does lead to a reduction in the bird abundance within adjacent hedgerows - Reijnen *et al* (1995) examined the distribution of 43 passerine species (i.e. 'songbirds'), of which 60% had a lower density closer to the roadside than further away. By controlling vehicle usage they also found that the density generally was lower along busier roads than quieter roads[23].

3.3.5 The factors that influence a species response to a disturbance are numerous, but the three key factors are species sensitivity, proximity of disturbance sources and timing/duration of the potentially disturbing activity. Disturbance from noise or visual intrusion is likely to be most relevant if the road is immediately adjacent to an SPA, although impacts have been reported up to 1km away due to more intense sources such as busy highways[24].

[21] Riddington, R. *et al*. (1996). *The impact of disturbance on the behaviour and energy budgets of Brent geese*. Bird Study 43:269-279
[22] Gill, J.A., Sutherland, W.J. & Norris, K. (1998). *The consequences of human disturbance for estuarine birds*. RSPB Conservation Review 12: 67-72
[23] Reijnen, R. *et al*. (1995). *The effects of car traffic on breeding bird populations in woodland. III. Reduction of density in relation to the proximity of main roads*. Journal of Applied Ecology 32: 187-202
[24] Reijnen, R. Foppen, R & Veebaas G. (1997) Disturbance by traffic of breeding birds: evaluation of the effect and considerations in planning and managing road corridors. Biodiversity and Conservation 6, 567-581 (1997)

3.3.6 Lighting is only likely to be an issue if the Local Transport Plan results in the introduction of street lighting to roads within close proximity of European sites which are currently unlit.

3.4 In Combination Assessment

3.4.1 In carrying out a HRA screening exercise, it is a requirement to consider 'in combination' impacts that may arise as a result of other plans or projects operating in combination with the LTP. For the purposes of the HRA this includes assessment of other LDF documents, such as minerals and waste planning, LTPs for surrounding authorities, and levels of housing and employment development anticipated for Nottinghamshire and surrounding authorities over the lifetime of the LTP.

3.4.2 Newark & Sherwood District Council published their Core Strategy in March 2010, with submission to the Secretary of State in July 2010. The strategy has been subject to Examination in Public (November 2010) and further Proposed Changes have been added in December 2010. The District includes the area designated as Birklands and Bilhaugh SAC, as well as a substantial proportion of the area currently proposed as forming the Sherwood Forest SPA. An Appropriate Assessment has been carried out on the Publication Core Strategy[25]. The remainder of the proposed future area of the SPA is distributed between the districts/boroughs of:

- Bassetlaw (Publication Draft CS submitted 2010 – HRA Screening of Preferred Options carried out[26]);
- Mansfield (Issues and Options CS, 2010);
- Ashfield (Preferred Options CS, 2010); and
- Gedling (Options for Consultation, 2010, as part of Greater Nottingham Aligned CS – HRA Screening of the Options for Consultation carried out[27])

3.4.3 The Nottinghamshire Minerals and Waste Core Strategies and associated documents could potentially contain site allocations or policies that could contribute to reduced air quality at designated sites, particularly through increased or altered road transport movements. These documents are currently in preparation, and the Waste Core Strategy has recently been subject to consultation at its Further Issues and Options stage.

3.4.4 Planning authorities outside Nottinghamshire with local development documents that could contain policies with potential impacts on designated sites (that also have pathways of impact connected to the LTP3) would include those in Derbyshire, South Yorkshire, and Lincolnshire. Specifically any policies likely to increase recreational pressure or to lead to reduced air quality on designated sites would require consideration.

3.4.5 There are national proposals for a High Speed rail link that would operate a line between Birmingham and Leeds. Nottinghamshire CC has indicated strong support for, and willingness to work with High-Speed2 Ltd., in order to develop plans for such a route.

3.4.6 When undertaking this part of the assessment it is essential to bear in mind the principal intention behind the legislation i.e. to ensure that those projects or plans which in themselves have minor impacts are not simply dismissed on that basis, but are evaluated for any cumulative contribution

[25] http://www.newark-sherwooddc.gov.uk/ppimageupload/holding/Image95145.PDF
[26] http://www.bassetlaw.gov.uk/pdf/BDC%20HRA%20Screening.pdf
[27] http://www.nottinghamcity.gov.uk/CHttpHandler.ashx?id=22470&p=0

they may make to an overall significant effect. In practice, in combination assessment is therefore of greatest relevance when the plan would otherwise be screened out because its individual contribution is inconsequential.

4 Screening

4.1 LTP3 Screening

4.1.1 The Local Transport Plan does not include a list of specific strategies and schemes as few schemes are expected given the financial constraints. Every scheme proposal/application (particularly those which will deliver new vehicular transport infrastructure) will need to be subject to the HRA screening exercise and if necessary an Appropriate Assessment.

4.1.2 This current assessment focuses on screening the Objectives and Strategic Options of the Local Transport Plan and the supporting details where it has been identified that Nottinghamshire CC 'will' undertake a particular activity (under the 'Delivering the Transport Objectives' heading of the consultation document).

4.1.3 Green shading in the final column indicates an Objective or Strategic Option that has been screened out of further consideration due to the absence of any mechanism for an adverse effect on European sites.

Table 3. Habitat Regulations Assessment Screening (Likely Significant Effects) for each objective of the Local Transport Plan. Green = screened out, amber = screened in for Appropriate Assessment

Objective	Relevant Strategic Options	Screening conclusion
Tackle congestion and make journey times more reliable	• Public transport service improvements • Bus priority and infrastructure • Public transport interchange • Reduce the need to travel • Active travel • Demand management	Reducing the need to travel inevitably reduces the potential for reduced air quality through traffic emissions, while encouragement of active travel (i.e. non-motorised) will have similar effects. Improvements to public transport infrastructure and reliability are likely to increase its use and thus reduce reliance on private cars. This can therefore be screened out at unlikely to lead to significant effects. Demand management could help in avoiding air quality reductions that may affect European designated sites. This can only be effectively determined once specific strategies and schemes are developed.
	• Public transport interchange • New roads and local road schemes	New road schemes and potentially new infrastructure (e.g. interchanges) could lead to increased traffic movements and potentially reduced air quality (though improvements to traffic flow may offset this). The Council does advocate the implementation of the following schemes: - Worksop bus station (replacement urban facility) - Mansfield passenger transport interchange (replacement urban facility)

Objective	Relevant Strategic Options	Screening conclusion
		- A453 improvements - Midland mainline speed improvements and various rail upgrades The first two of these schemes are the responsibility of the County Council and the latter two the Highways Agency (HA) and Network Rail (NR). The County Council will ensure that all environmental issues are taken into account and considered at feasibility, design and delivery stages. This will ensure that ideally no impacts are generated, or at least that any impacts are actively mitigated. All issues raised through either an EIA or HRA will be dealt with at least at detailed design before any such scheme is delivered. Similar processes will be undertaken by both the HA (A453) and NR (Midland Mainline) on the schemes for which they are the responsible promoters. **Birklands & Bilhaugh SAC** Birklands & Bilhaugh SAC already experiences levels of nitrogen deposition that exceed the critical load for oak woodland. Therefore any measures (policies or specific schemes) within the LTP that would lead to increased traffic within 200m of the SAC would require Appropriate Assessment for possible impacts on air quality. The SAC lies, in part, adjacent to the B6034 where it cuts between the A6075 and A616 west of New Ollerton, and at its closest, is just over 200m from the A616 west of New Ollerton. None of these proposed measures appear to provide primary road links between centres of population, with more major trunk roads connecting Worksop, Newark and Mansfield. Therefore, if the LTP Implementation Plan avoids commitment to defined schemes that would lead to increased traffic on the B6034 or any road widening works that would bring the A616 within 200m of the SAC, then there are unlikely to be any 'point' impacts upon Birklands & Bilhaugh SAC. **Sherwood Forest pSPA** The area currently considered as prospectively suitable for SPA status includes numerous sections that lie within 200m of major roads – in many cases these roads lie adjacent or pass through suitable areas. At this stage it has been

Objective	Relevant Strategic Options	Screening conclusion
		considered that analysis of current atmospheric deposition is beyond the scope of this report, but it is likely that any measures (policies or specific schemes) within the LTP Implementation Plan that would lead to increased traffic within 200m of these areas would lead to a need for Appropriate Assessment for possible impacts on air quality. Specific sections of road that would be within 200m of this potential SPA (based on indicative boundaries) are: - A60 (Mansfield to Nottingham) - A614 (Nottingham to The North and A1) - A617 (Mansfield to Newark) - A57 (Worksop to A1) - A6075, A616 and minor roads in vicinity of New Ollerton, Ollerton and Boughton - A6075 (Mansfield to New Ollerton). Nightjars and woodlarks could be sensitive to significant increases in noise levels in proximity to breeding territories. The literature suggests that the density of some bird species is reduced in proportion to proximity to the roadside and the distance over which this effect persists varies from species to species between a few meters in some species to more than 3 km in stone curlew[28]. Ultimately, it will be the change in noise levels and other factors rather than the distance from the road which will determine the effect in a given situation. In this case we understand that it is unlikely that the LTP will contain any measures that would cause a change in traffic volumes on any road of more than 25% maximum and thus a maximum 1dB increase in noise at the roadside. As the distance from the roadside increases, the change in noise levels will become smaller still. Assuming this assumption remains true noise impacts on nightjar and woodlark habitat may well be negligible. However, as a precaution it is considered that schemes should seek to minimise traffic movements on roads within 200m of the potential future SPA as much as possible. Nightjars are also nocturnal and are thus highly sensitive to light pollution. Therefore the introduction of lighting to any currently unlit

[28] http://www.fhwa.dot.gov/environment/noise/noise_effect_on_wildlife/effects/wild04.cfm

Objective	Relevant Strategic Options	Screening conclusion
		stretches of road should be avoided within 200m of the proposed SPA. New roads and local road schemes, dependent on location, could potentially therefore create air quality and disturbance effects on key features of designated sites, although there is no indication that they will do so at this stage. This can only be evaluated further once specific strategies and schemes are developed at the Implementation Plan stage or individual scheme stage. It is acknowledged that the Council will "*only deliver highway capacity when all other measures have been exhausted.*"
	• Active travel	The options for encouraging active travel may include provision of new cycle/walking routes, which would need to be located sensitively to avoid impacts on European designated sites, particularly woodlark and nightjar populations relevant to the Sherwood Forest pSPA. It is acknowledged that the detail of any new cycle/walking routes is likely to be an issue more relevant to the Core Strategies of relevant local authorities; the Nottinghamshire Rights of Way Improvement Plan; and the Sherwood Forest Management Plan (developed in collaboration with Natural England).
Improve connectivity to inter-urban, regional and international networks	• Public transport service improvements • Public transport interchange • New roads and local road schemes	See previous comments on delivering new road schemes and infrastructure
	• Public transport service improvements	Improvements to public transport infrastructure and reliability are likely to increase its use and thus reduce reliance on private cars. This can therefore be screened out as unlikely to lead to significant effects.
Address the transport impacts of planned housing and employment growth	• Public transport service improvements • Bus priority and infrastructure • Reduce the need to travel • Active travel	Reducing the need to travel inevitably reduces the potential for reduced air quality through traffic emissions, while encouragement of active travel (i.e. non-motorised) will have similar effects. Improvements to public transport infrastructure and reliability are likely to increase its use and thus reduce reliance on private cars. This can therefore be screened out as unlikely to lead to significant effects.
	• New roads and local road schemes	New road schemes could lead to increased traffic movements and potentially reduced air quality (though improvements to traffic flow may offset this). Such schemes, dependent on

Objective	Relevant Strategic Options	Screening conclusion
		location, could create disturbance effects on key features of designated sites. This can only be effectively determined once specific strategies and schemes are developed. It is acknowledged that the Council will "*only deliver highway capacity when all other measures have been exhausted*." The Council does advocate the implementation of the following schemes: - A453 improvements The A453 does not lie within 200m of, or on a direct pathway to, any European designated site.
	• Active travel	The options for encouraging active travel may include provision of new cycle/walking routes, which would need to be located sensitively to avoid impacts on European designated sites. However, it is acknowledged that this is likely to be an issue more relevant to the Core Strategies of relevant local authorities; the Nottinghamshire Rights of Way Improvement Plan; and the Sherwood Forest Management Plan (developed in collaboration with Natural England).
Encourage people to walk, cycle and use public transport through promotion and provision of facilities	• Public transport service improvements • Maintenance of roads, footways and bridges • Bus priority and infrastructure • Public transport interchange • Local safety schemes • Active travel	The encouragement of walking, cycling and use of public transport should lead to improved air quality within Nottinghamshire. Therefore there is no mechanism for adverse effects on European designated sites through reduced air quality.
	• Public transport interchange	See previous comments on delivering new road schemes and infrastructure.
	• Active travel	The options for encouraging active travel may include provision of new cycle/walking routes, which would need to be located sensitively to avoid impacts on European designated sites. However, it is acknowledged that this is likely to be an issue more relevant to the Core Strategies of relevant local authorities and the Sherwood Forest Management Plan (developed in collaboration with Natural England).
Support regeneration	• Public transport service improvements • Public transport interchange • New roads and local road schemes	There is scope for adverse effects on European sites through reduction in air quality and disturbance and this will need to be investigated further when particular schemes are identified. It is acknowledged that the Council will "*only deliver highway capacity when all other*

Objective	Relevant Strategic Options	Screening conclusion
		measures have been exhausted." The Council does advocate the implementation of the following schemes: - Worksop bus station (urban replacement facility) - Mansfield passenger transport interchange (urban replacement facility) - A453 improvements - Midland mainline speed improvements and various rail upgrades Of these, Worksop bus station could be located within 2km of land that would qualify for inclusion within a future Sherwood Forest SPA. Refer to earlier note with regards to responsibility for these schemes.
	• Public transport service improvements	Improvements to public transport infrastructure and reliability are likely to increase its use and thus reduce reliance on private cars. This can therefore be screened out as unlikely to lead to significant effects.
Reduce transport's impact on the environment	• Public transport service improvements • Maintenance of roads, footways and bridges • Public transport interchange • Reduce the need to travel • Active travel • Demand management	Reducing the need to travel inevitably reduces the potential for reduced air quality through traffic emissions, while encouragement of active travel (i.e. non-motorised) will have similar effects. Improvements to public transport infrastructure and reliability are likely to increase its use and thus reduce reliance on private cars. This can therefore be screened out as unlikely to lead to significant effects. Demand management could help in avoiding air quality reductions that may affect European designated sites. This can only be effectively determined once specific strategies and schemes are developed.
	• Public transport interchange	New infrastructure (e.g. interchanges) could, dependent on location, create disturbance effects on key features of designated sites. This can only be effectively determined once specific strategies and schemes are developed. The Council does advocate the implementation of the following schemes: - Worksop bus station (urban replacement scheme) - Mansfield passenger transport interchange (urban replacement scheme)

Objective	Relevant Strategic Options	Screening conclusion
		Of these, Worksop bus station could be located within 2km of land that would qualify for inclusion within a future Sherwood Forest SPA. However, this is unlikely to be sufficiently close to result in an adverse effect. Refer to earlier note on responsibility for schemes.
	• Active travel	The options for encouraging active travel may include provision of new cycle/walking routes, which would need to be located sensitively to avoid impacts on European designated sites. However, it is acknowledged that this is likely to be an issue more relevant to the Core Strategies of relevant local authorities; the Nottinghamshire Rights of Way Improvement Plan; and the Sherwood Forest Management Plan (developed in collaboration with Natural England).
Adapt to climate change and the development of a low-carbon transport system	• Public transport service improvements • Maintenance of roads, footways and bridges • Bus priority and infrastructure • Public transport interchange • Reduce the need to travel • Active travel • Demand management	Reducing the need to travel inevitably reduces the potential for reduced air quality through traffic emissions, while encouragement of active travel (i.e. non-motorised) will have similar effects. Improvements to public transport infrastructure and reliability are likely to increase its use and thus reduce reliance on private cars. This can therefore be screened out at unlikely to lead to significant effects. Demand management could help in avoiding air quality reductions that may affect European designated sites. This can only be effectively determined once specific strategies and schemes are developed.
	• Public transport interchange	New infrastructure (e.g. interchanges) could, dependent on location, create disturbance effects on key features of designated sites. This can only be effectively determined once specific strategies and schemes are developed. The Council does advocate the implementation of the following schemes: - Worksop bus station (urban replacement facility) - Mansfield passenger transport interchange (urban replacement facility) Of these, Worksop bus station could be located within 2km of land that would qualify for inclusion within a future Sherwood Forest SPA. However, this is unlikely to be sufficiently close to result in an adverse effect. Refer to earlier note on responsibility for these schemes.

Objective	Relevant Strategic Options	Screening conclusion
	• Active travel	The options for encouraging active travel may include provision of new cycle/walking routes, which would need to be located sensitively to avoid impacts on European designated sites. However, it is acknowledged that this is likely to be an issue more relevant to the Core Strategies of relevant local authorities; the Nottinghamshire Rights of Way Improvement Plan; and the Sherwood Forest Management Plan (developed in collaboration with Natural England).
Improve levels of health and activity by encouraging active travel (walking or cycling) instead of short car journeys	• Reduce the need to travel • Local safety schemes • Active travel	There doesn't seem to be any mechanism for this objective to lead to significant effects on European sites through reduced air quality.
	• Active travel	The options for encouraging active travel may include provision of new cycle/walking routes, which would need to be located sensitively to avoid impacts on European designated sites, particularly woodlark and nightjar populations relevant to the Sherwood Forest pSPA. It is acknowledged that the detail of any new cycle/walking routes is likely to be an issue more relevant to the Core Strategies of relevant local authorities; the Nottinghamshire Rights of Way Improvement Plan; and the Sherwood Forest Management Plan (developed in collaboration with Natural England).
Address and improve personal safety (and the perceptions of safety) when walking, cycling or using public transport	• Maintenance of roads, footways and bridges • Bus priority and infrastructure • Public transport interchange • Reduce the need to travel • Local safety schemes	There is no identified mechanism for this objective to lead to significant effects on European sites. It is possible that improved lighting could be an aspect of safety schemes, but it is unlikely that this would be in locations that would conflict with key features of European designated sites.
Provision of an affordable, reliable, and convenient public transport network	• Public transport service improvements • Bus priority and infrastructure	Improvements to public transport infrastructure and reliability are likely to increase its use and thus reduce reliance on private cars. This can therefore be screened out as unlikely to lead to significant effects.
Improve access to employment and other key services particularly from rural areas	• Public transport service improvements • Bus priority and infrastructure • Public transport interchange • Reduce the need to travel • Active travel	Reducing the need to travel inevitably reduces the potential for reduced air quality through traffic emissions, while encouragement of active travel (i.e. non-motorised) will have similar effects. Improvements to public transport infrastructure and reliability are likely to increase its use and thus reduce reliance on private cars. This can therefore be screened out as unlikely to lead to

Objective	Relevant Strategic Options	Screening conclusion
		significant effects.
	• Public transport interchange • New roads and local road schemes	See previous comments on delivering new road schemes and infrastructure
	• Active travel	The options for encouraging active travel may include provision of new cycle/walking routes, which would need to be located sensitively to avoid impacts on European designated sites, particularly woodlark and nightjar populations relevant to the Sherwood Forest pSPA. It is acknowledged that the detail of any new cycle/walking routes is likely to be an issue more relevant to the Core Strategies of relevant local authorities; the Nottinghamshire Rights of Way Improvement Plan; and the Sherwood Forest Management Plan (developed in collaboration with Natural England).
Maintain roads, footways, public transport services etc	• Maintenance of roads, footways and bridges • Reduce the need to travel • Local safety schemes • Active travel	Reducing the need to travel inevitably reduces the potential for reduced air quality through traffic emissions, while encouragement of active travel (i.e. non-motorised) will have similar effects.
	• Active travel	The options for encouraging active travel may include provision of new cycle/walking routes, which would need to be located sensitively to avoid impacts on European designated sites, particularly woodlark and nightjar populations relevant to the Sherwood Forest pSPA. It is acknowledged that the detail of any new cycle/walking routes is likely to be an issue more relevant to the Core Strategies of relevant local authorities; the Nottinghamshire Rights of Way Improvement Plan; and the Sherwood Forest Management Plan (developed in collaboration with Natural England).

4.1.4 On the basis of the schemes specifically identified within the Local Transport Plan it can be screened out as unlikely to lead to significant effects on European sites. Further screening to confirm this conclusion will be required for individual schemes.

4.2 In Combination Screening

4.2.1 The HRA screening exercise carried out on Bassetlaw Publication Draft Core Strategy devolves consideration of air quality impacts from housing development to assessment of the LTP, and impacts from employment to assessment of more spatially specific plans. That HRA deemed that mitigation for potential effects of recreational pressure on designated sites was sufficient.

4.2.2 The HRA screening of the Aligned Core Strategy for Greater Nottingham concluded no likely significant effect on the Birklands and Bilhaugh SAC arising form increased recreation pressure associated with development provided for by the Core Strategy. This position however relies on the assumption that the relocation of the Sherwood Forest visitor centre and the improved habitat and access management measures proposed are implemented within the period of the Core Strategy. As a result in combination effects with the LTP are unlikely.

4.2.3 The A616 past Birklands and Bilhaugh SAC connects to the M1 motorway in Derbyshire. However, although this could be a route taken by motorists from the North to Newark, the more direct access would be via the A1(M) from South Yorkshire. Access eastwards from the Derbyshire dales is unlikely to be significant. Therefore the levels of development and transport plans for surrounding county authorities are unlikely to have significant impact on the SAC in combination with the LTP through reduced air quality.

4.2.4 Sherwood Forest, specifically Birklands and Bilhaugh SAC does lie within the typical distance that visitors will travel to visit a woodland site from the metropolitan authority of Rotherham, and parts of Derbyshire. Additionally, Sherwood Forest is a site with wide public appeal. Therefore any policies within the LTP3 that address issues of public access will require consideration in combination with Core Strategies for appropriate authorities outside of Nottinghamshire in terms of addressing cumulative impacts of recreational pressure.

4.2.5 The HRA exercise carried out in consideration of the Newark & Sherwood Core Strategy noted that new housing provision could have "*cumulative impacts on air quality which could potentially affect the prospective SPA*." The HRA notes that further investigation would be required, but that measures set out within the Core Strategy would go some way to mitigating/avoiding potential effects associated with future development.

4.2.6 Transport policy in the Newark & Sherwood Core Strategy focused on reducing the need to travel and encouraging modal shift and improving accessibility to services in rural areas. The HRA of the Aligned Core Strategy for Greater Nottingham also observed that there could be potential effects on Sherwood Forest proposed SPA through the provision of over 52,000 new homes (nitrogen deposition from traffic). At present, the LTP3 has a Strategic Objective that focuses on 'new roads and local road schemes'. In combination with new housing therefore, new roads could lead to increased risk of air pollution having effect on the potential SPA. However, it is noted within the LTP3 that "*a memorandum of understanding (MoU)…has been developed between the three local transport authorities that comprise the Nottingham core Housing Market Area (Nottinghamshire County, Derbyshire County and Nottingham City councils)*." This partnership working will consider public transport, transport modelling and joint planning, and is therefore an important mechanism to avoid the risk of reduced air quality that might arise if neighbouring authorities were to work in isolation.

4.2.7 The LTP3 does not contain measures that specifically address public access considerations. Therefore, although visitors from local authorities within and beyond the boundary of Nottinghamshire may choose to visit the potential SPA, there is no aspect of the LTP3 that can be considered to lead to likely 'in combination' effects through increased recreational pressure.

4.2.8 The LTP3 does express strong support for development of a high speed rail link between Birmingham and Leeds that would be likely to pass through Nottinghamshire. Therefore at this stage, although potential for in combination impacts on European sites exist alongside Strategic Options within the draft LTP3, these cannot be appraised. It is assumed that this major transport scheme will be subject to HRA (the London to West Midlands route has already been subject to

HRA scoping), and when route options are presented, the LTP3 should be a material consideration in combination as part of a project-level HRA.

4.2.9 The Nottinghamshire Minerals and Waste Core Strategies and associated documents could potentially contain site allocations or policies that could contribute to reduced air quality at designated sites, particularly through increased or altered road transport movements. These documents are currently in preparation, and the Waste Core Strategy has recently been subject to consultation at its Further Issues and Options stage. At present there is not sufficient detail to appraise any in combination effects.

5 Conclusions

5.1.1 Owing to reduced funding, the Local Transport Plan does not make commitments towards major spending on highways. Indeed, the policy is exactly the reverse. The policies and strategies described in the Local Transport Plan do not give rise to direct or in-combination effects and hence the Plan itself can be screened out from requiring an Appropriate Assessment on the basis of being unlikely to lead to significant effects on European sites.

5.1.2 Nevertheless, this does not absolve Nottinghamshire County Council from the requirement to undertake a HRA screening on each subsequent project/planning application, particularly those that will introduce new transport infrastructure, as more detail will become available at this level. Such assessments should have a particular focus upon determining in-combination effects.

5.1.3 In this context it is important that Nottinghamshire County Council ensure that the effects of the new public Transport Interchange at Worksop as well as any new roads are assessed to ensure they do not give rise to significant effects on European designated sites.

5.1.4 It is noted that the LTP3 does contain measures that seek to avoid reduced air quality in combination with other plans and projects. Specifically, it commits to:

- Working in partnership with neighbouring authorities and the Highways Agency, including a memorandum of understanding (MoU), that has been developed between the three local transport authorities that comprise the Nottingham core Housing Market Area (Nottinghamshire County, Derbyshire County and Nottingham City councils). This partnership working is an important mechanism to avoid the risk of reduced air quality that might arise if neighbouring authorities were to work in isolation.
- Continued working with district councils to monitor and address air quality issues.

5.1.5 In order to confirm and sustain a conclusion of no likely significant effects on European designated sites, the LTP3 should:

- Include a commitment to protection of the environment as an over-riding priority. At present, the LTP3 includes the prospect of undefined new roads, new road schemes, and public transport infrastructure. It is noted that in '*undertaking small scale improvements to the transport networks*' the Council will seek to '*minimise the impacts of transport on the environment*.' However, this ethos should be strengthened and applied to all aspects of the LTP3. One particular scheme that is projected (Worksop Bus Station) could potentially take place within a distance of 2km of a possible future Sherwood Forest SPA, and could potentially lead to likely significant effects (without mitigation). We note that this scheme will be subject to Environmental Impact Assessment and HRA should be undertaken in parallel;
- Demonstrate coherent linkages with other documents within LDFs within Nottinghamshire (e.g. Core Strategies). In doing so, the LTP3 can be placed in the context of environmental protection policies contained within transport strategies within these LDFs. This approach is likely to enable a conclusion of no likely significant effects for the Strategic Objective of 'Active Travel.'
- When devising detailed schemes the local transport authority should avoid deteriorations in air quality within 200m of Birklands and Bilhaugh SAC and avoid deteriorations in air quality, noise and light pollution within 200m of the potential Sherwood Forest SPA.

Appendix - Baseline Conditions at European Sites

Birklands and Bilhaugh SAC

Introduction

This 270ha site contains the best remaining examples of oak-birch woodland in Nottinghamshire together with tracts of acid grassland and heath. The invertebrate fauna, particularly those associated with old trees and dead wood, are exceptional, in particular beetles and arachnids.

Reasons for SAC Designation

Birklands and Bilhaugh is designated as a SAC for its:

- Dry oak-dominated woodland

Historical Trends and Current Condition

Air pollution has been noted as driving declines in lichen diversity on this site, and nitrogen deposition already exceeds critical loads (Table 3). The site's designated interest features are intrinsically linked with its low-nutrient substrate and are vulnerable to aerial deposition of nitrogen. The SAC is also popular with recreational users, with potential for damage from visitor pressure.

Table 3: Critical nitrogen loads, actual rates of nitrogen deposition and NOx concentrations[29] for Birklands and Bilhaugh SAC (APIS[30] data accessed on 08/11/10)

Site	Grid reference [31]	Key habitats	Minimum [32] critical loads (Kg N/ha/yr)	Actual nitrogen deposition [33]	Actual NOx concentration (μgm^{-3})
Birklands and Bilhaugh SAC	SK626682	Oak woodland	10	32.5	16.2

In the most recent Natural England site condition assessment (2008-09), none of the Site of Special Scientific Interest (SSSI) that underpins the SAC was in favourable condition. The majority was recovering from unfavourable status, but 20% was 'unfavourable no change.' This was due to issues relating to public access and disturbance.

Key Conditions to Support Site Integrity

The following key environmental conditions have been identified for the maintenance of the interest features of Birklands and Bilhaugh SAC:

[29] As NO_2
[30] UK Air Pollution Information System. http://www.apis.ac.uk
[31] For sites outside Waltham Forest borough, grid references relate to the closest points to the District.
[32] APIS provides a critical load range – on a precautionary basis, this assessment uses the lowest figure in that range
[33] To a resolution of 5 km

- Controlled recreational activity;
- Avoidance of habitat fragmentation;
- No loss (other than natural) of veteran trees;
- Good air quality; and
- Absence of nutrient enrichment

Sherwood Forest (possible future SPA)

Introduction

The site consists of a series of land parcels within Nottinghamshire that, taken as a unit, potentially qualify as a SPA because of the presence of breeding nightjar and woodlark. The populations in the Sherwood Forest region represent more than 1% of their total UK breeding populations (sufficient in principle to qualify as a SPA). The areas are considered to provide optimal breeding habitat.

There is ongoing consideration of an additional qualifying Annex 1 species (honey buzzard) in the far north of the Sherwood Forest region which may require the inclusion of additional lands within the prospective SPA.

As the full SPA selection process has yet to be formally implemented and the formal UK Review of the existing suite of sites for nightjar and woodlark is pending, Natural England has not yet formed a view on whether a site within the Sherwood Forest region is one of the most suitable territories for these species (i.e. even though 1% of the UK breeding population may occur, this may not be considered an optimal site to receive SPA status). The prospect of a new European Site being designated in the District is considered by Natural England to warrant a contingency based approach in line with PPS12 (Local Spatial Planning)[34].

Population coverage of both nightjar and woodlark within existing SPAs has declined in recent years. The RSPB have identified a number of possible additions to the SPA series should the ongoing UK SPA Review conclude it necessary to increase the coverage of both species. One of these possible additions is Sherwood Forest.

The site includes land currently also designated as Birklands and Bilhaugh SAC.

Reasons for Potential SPA Qualification

Sherwood Forest would qualify as a SPA due to supporting:

- 1.88% of the total UK breeding nightjar population during 2004 and 2.51% of the total UK breeding woodlark population during 2006 (based on the statutory 1% threshold levels from 1992 and 1997 respectively).

[34] http://planning.newark-sherwooddc.gov.uk/ppimageupload/holding/Image92681.PDF