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Habitats Regulations Assessment of Epping Forest District Council Regulation 19 Local Plan

Non-Technical Summary

Epping Forest District Council

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Quality information

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1. Introduction and Methodology

Introduction

1.1 AECOM has been appointed by Epping Forest District Council to assist the Council in undertaking a Habitat Regulations Screening Assessment of the Regulation 19 Local Plan (hereafter referred to as the 'Plan' or 'Local Plan'). The Plan being assessed is the Submission Version of the Local Plan 2017 which sets out the Council's proposed strategy to meet the economic and housing needs in the District up to 2033. The Plan identifies sites for housing (including traveller accommodation) and employment. It also sets out development management policies and infrastructure requirements. The objective of this assessment is to identify any aspects of the Plan that would cause an adverse effect on the integrity of Natura 2000 sites, otherwise known as European sites (Special Areas of Conservation (SACs), Special Protection Areas (SPAs) and, as a matter of Government policy, Ramsar sites), either in isolation or in combination with other plans and projects, and to advise on appropriate policy mechanisms for delivering mitigation where such effects were identified.

1.2 There are three European designated sites that lie partly within Epping Forest District:

- Epping Forest SAC;
- Lee Valley SPA; and
- Lee Valley Ramsar site.

1.3 The potential for effects on European designated sites is not restricted to those sites within the local authority boundary. Therefore, the following site has also been considered:

- Wormley-Hoddesdonpark Woods SAC located 2.2km west of the District.

Methodology

1.4 Figure 1 below outlines the stages of HRA according to current draft DCLG 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.

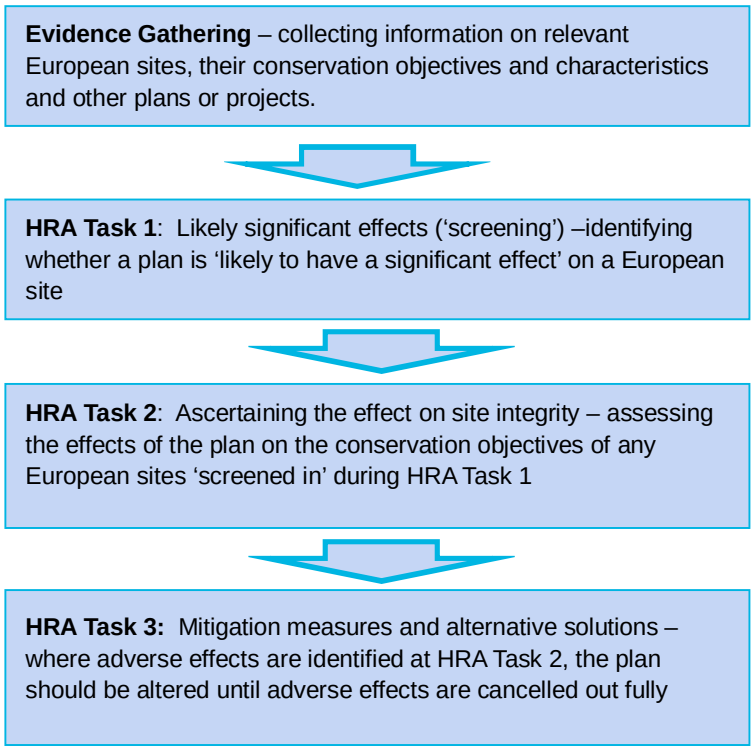

Figure 1: Four Stage Approach to Habitats Regulations Assessment. Source CLG, 2006.

1.5 Most of the HRA report is associated with HRA Task 1. However, Natural England's response to the previous HRA of the Local Plan indicated that they would prefer the air quality analysis at Epping Forest to be classified as 'appropriate assessment' and that approach has therefore been followed in this report.

2. Initial Policy Sift

2.1 The first step was an initial sift of the policies and site allocations within the Submission Version of the Plan, from the point of view of HRA. In summary, the following policies could not be immediately dismissed as presenting no potential for effects on at least one European site and therefore needed further assessment to clarify any adverse effects. This was primarily because they will govern delivery of a quantum of new housing or employment, or will govern the distribution of the same:

- Policy SP 2: Spatial Development Strategy 2011-2033
- Policy SP 4 Development & Delivery of Garden Communities in the Harlow and Gilston Garden Town Area
- Policy SP 5 Garden Town Strategic Allocations
- Policy E 1 Employment sites
- Policy DM 5 Green and Blue Infrastructure and Policy DM 6 Designated and undesignated open spaces (only in as much as care should be taken to ensure that these policies do not result in increased recreational pressure on Epping Forest SAC in particular)
- Policies P 1 to P 15 (the policies that make development site allocations)

2.2 The Local Plan was identified to have several potential linking impact pathways to European designated sites (i.e. potential ways in which they could affect such a site). These were:

- Recreational pressure and urbanisation[1]
- Atmospheric pollution

[1] In this context urbanisation is linked closely to recreational pressure but involves issues that are generally involved when a large amount of residential development lies very close to a European site: increased incidences of littering and fly-tipping, inadvertent fires etc.

- Water Abstraction
- Water Quality

2.3 The screening undertaken of site allocations identified 65 housing and traveller sites that are either located within 400m of Epping Forest SAC (and as such are screened in for further discussion relating to urbanisation in particular) or are located within 4km of Epping Forest SAC, 7km of Wormley-Hoddesdonpark Woods SAC and/or 6km of Lee Valley SPA and Ramsar site and as such could contribute to recreational pressure on those sites (pending further analysis of their vulnerability later in the report). In contrast, it was considered that all employment site allocations could be dismissed except as a source of increased vehicles on the road network thus presenting potential for air quality impacts on Epping Forest SAC.

2.4 The identified impact pathways are considered further in relation to Epping Forest SAC, Lee Valley SPA and Ramsar site and Worley-Hoddesdonpark Woods SAC.

3. Detailed Assessment

Recreational Pressure and Urbanisation

3.1 The assessment shows that the following policies within the Plan provide a positive contribution that could result in a reduction in recreational pressure and urbanisation:

- Policy DM 2 (Epping Forest SAC and the Lee Valley SPA)
- Policy DM 5 (Green and Blue Infrastructure)
- Policy DM 6 (Designated and Undesignated Open Spaces)
- Policy DM 7 (Heritage Assets)
- Policy DM 10 (Housing Design and Quality)
- Policy SP 7 (The Natural Environment, Landscape Character and Green and Blue Infrastructure)
- Policy DM 11 (Waste Recycling Facilities on New Development)

3.2 Within the context of these policies, recreational pressure on each European site is discussed below.

Lee Valley SPA/Ramsar site

3.3 The analysis undertaken has concluded that recreational pressure effects on this site from the proposed development in Epping Forest District are unlikely to be significant even 'in combination' with other projects and plans, for the following reasons:

- Amwell Quarry SSSI (Amwell Nature Reserve), Turnford and Cheshunt Pits SSSI and Rye Meads SSSI (Rye Meads Nature Reserve) - the three main parts of the SPA/Ramsar site outside London - are specifically designed to route people away from the sensitive areas and minimise disturbance while at the same time accommodating high numbers of visitors.
- The main species for which the SPA and Ramsar site are designated – wintering gadwall and shoveler ducks – are not highly sensitive to disturbance and are readily able to adapt (habituate) to the presence of shore-based human recreational activities without being displaced from the site (as opposed to water-based activities which are potentially highly disturbing).
- Turnford & Cheshunt Pits is located within the Lee Valley Country Park, which is part of the Lee Valley Regional Park. In their response to the Draft Epping Forest Local Plan 2016, the Lee Valley Regional Park Authority did not raise any concerns regarding future recreational pressure on the SPA from the proposed growth in Epping Forest District.

- The closest allocated housing sites in the Submission Version of the Epping Forest Local Plan 2017 are more than 1km from the closest part of the SPA/Ramsar site (Turnford & Cheshunt Pits SSSI) and considerably further than that from other parts.

3.4 Nonetheless the Plan recognises that case-by-case decisions need to be made for individual planning applications. To facilitate this, Policy DM 2 (Epping Forest SAC and Lee Valley SPA) includes the following protective text: '*New residential development likely to have a significant effect, either alone or in combination with other development in these areas, will be required to demonstrate that adequate measures are put in place to avoid or mitigate any potential adverse effects*' and this will apply explicitly to Lee Valley SPA/Ramsar site. With these precautions in place it is concluded that there will be no recreational likely significant effect on Lee Valley SPA/Ramsar site.

Wormley-Hoddesdonpark Woods SAC

3.5 Natural England's Site Improvement Plan (SIP)[2] indicates that the site is heavily used by the public for recreational purposes. However, it also indicates that recreational activity is generally well-managed. Sensitive management of access points and routes by the site's main owners has been largely successful in mitigating the potential adverse effects of this high level of use. As such, general recreational pressure is not indicated in the Site Improvement Plan as a current or future obstacle to achieving or maintaining favourable conservation status and preserving the integrity of the SAC. Recreation is actively promoted on this site and most recreation is concentrated on well-established paths. Most of the complex is covered by a High Forest Zone Plan (Hertfordshire County Council 1996) which sets out a framework for woodland management across the whole area. It aims to restore a varied age structure and natural stand types through sustainable forestry. The Local Plan does not propose to allocate any new residential sites at all within 2.9km of the SAC. The Local Plan proposes to allocate a total of nine housing sites (2,317 dwellings) and five traveller sites within 7km of the SAC. Based on the issues identified in the Site Improvement Plan and the fact that concerns about recreational pressure on this site have not been flagged by Natural England during the preparation of the Local Plan and its HRA, which commenced in 2012, there is no basis to conclude that such an increase would result in a likely significant effect on the SAC.

Epping Forest SAC

Recreational pressure

3.6 Epping Forest SAC receives a great many visits per year (estimated at over 4 million) and discussions with the City of London Corporation have identified long-standing concerns about increasing recreational use of the Forest resulting in damage to its interest features. A programme of detailed formal visitor surveys has been undertaken in recent years. Analysis of existing visitor survey data was undertaken by Footprint Ecology in September 2016[3]. This analysis identified that 89% of survey respondents originated from within 5km of the SAC and 76% originated from within 4km. Natural England confirmed that the zone within which c. 75% of visitors arise is an appropriate zone to define as the core catchment.

3.7 Based on the existing analysis and settlement patterns around the SAC it is reasonable to expect that most regular (i.e. at least weekly) visitors to the SAC are likely to come from the London Boroughs of Waltham Forest, Enfield, and Redbridge and the following settlements in Epping Forest District: Chigwell, Buckhurst Hill, Loughton, Theydon Bois, Epping and Waltham Abbey. These settlements all lie partially or wholly within 4km of the SAC. The visitor survey is currently being updated in order to provide more robust data. There are fifty-three residential site allocations in the Local Plan wholly or in part within 4km of the Epping Forest SAC. Since the SAC is already known to be under pressure from high levels of recreational use, additional recreational activity resulting from new residential development located within 4km of the SAC (using the latest available data), or whatever alternative core catchment supplants it, would result in a likely significant effect without mitigation.

3.8 Epping Forest District Council, together with its Housing Market Area partners (Harlow, Uttlesford and East Herts), have already committed to producing a strategic mitigation strategy for Epping Forest SAC though a Memorandum of Understanding agreed in February 2017[4]. Since that commitment was made governance arrangements have been put in in place to take forward the development of an action plan and this commitment has been reflected in the proposed Local Plan policy. The first step in development of this action plan is an updated visitor survey of the

[2] http://publications.naturalengland.org.uk/file/6541134543192064 [accessed 12/08/16]
[3] Footprint Ecology (2016). Initial review of current visitor data for Epping Forest
[4] Memorandum of Understanding 'Managing the Impacts of Growth within the West Essex/East Hertfordshire Houusing Market Area on Epping Forest Special Area of Conservation

SAC, which has been commissioned (November 2017). Details such as the core recreational catchment of the SAC will be refined following analysis of the survey data. The size of the tariff to be placed on net new housing within the core catchment to fund the action plan and its measures remains to be determined but should be confirmed prior to submission of the Local Plan to the Secretary of State for examination by the end of March 2018. It is considered that the Epping Forest SAC Memorandum of Understanding, coupled with Policies DM 2: Epping Forest SAC and Lee Valley SPA; SP 7: The Natural Environment, Landscape Character and Green and Blue Infrastructure;, Policy DM 5; Green and Blue Infrastructure; Policy DM 6: Designated and Undesignated Open Spaces; Policy DM 7: Heritage Assets;, and Policy DM 10: Housing Design and Quality will provide an appropriate framework to ensure that Epping Forest SAC is protected from the adverse effects of new development and thus ensure no likely significant effect on the SAC would materialise in practice, either alone or in combination with other plans and projects.

3.9 However, it is recommended that all allocations above a certain size (such as for more than 400 dwellings) in the core catchment of the SAC, and particularly within the settlements of Loughton, Epping, Waltham Abbey, Theydon Bois and Chigwell, should consider any potential to deliver their own on-site accessible natural greenspace. This is facilitated by Policy DM2 which states that '*To mitigate against potential or identified adverse effects of additional development in the District, in particular from strategic developments, on the Epping Forest SAC, the Council will ensure the provision of a meaningful proportion of Natural Green Space or access to Natural Green Space.*' Therefore, no specific change to policy is required and this recommendation only needs noting and exploring in practice. If the visitor survey identifies a larger core catchment then, depending on its size, this same principle could also be applied to the Garden Town Communities around Harlow set out in Policy SP 4 and SP 5. In any event, all of those Garden Town Communities are of a sufficient size that it would be appropriate for them to provide extensive areas of recreationally accessible natural greenspace in order to maximise their recreational self-sufficiency.

Urbanisation

3.10 Ten residential site allocations lie within 400m of Epping Forest SAC (the closest of these lies 80m from the SAC) and thus may be expected to contribute to urbanisation of the SAC. It should, however, be noted that there is a close relationship between some urbanisation impacts (e.g. fly tipping) and general recreational/public access. The City of London Corporation has identified that effects from urbanisation is a problem within the Forest. For example, fly-tipping and litter costs the Corporation approximately £250,000 per a year to address. This has a direct impact on their available budget and thus ability to sustainably manage and enhance the Forest's environment, including the SACs special features. As such, urbanisation and recreational pressure are inter-linked. Given this and the presence of sites within 400m of the SAC this impact cannot be dismissed. Policy DM 2 explicitly recognises this by stating that planning applications within 400m of Epping Forest SAC will be required to submit a site level Habitats Regulation Assessment.

3.11 Some urbanisation effects are intrinsically linked to recreational pressure (in that they increase with greater visitor use). As such it is appropriate that, in addition to the existing requirement of Policy DM 2 for project–level HRA on all new housing sites within 400m of the SAC, the strategic mitigation strategy being devised to address recreational pressure in Epping Forest SAC also considers input into site management costs to cover, for example, the fly-tipping issue from new development and an increased population.

Air Quality

3.12 Proposed Growth throughout Epping Forest District as a result of the site allocations could not be dismissed from potentially posing likely significant effects upon Epping Forest SAC as a result of increased air pollution. The following policies within the Plan provide a positive contribution to atmospheric improvements:

- Policy DM 22 (Air Quality)
- Policy DM 2 (Epping Forest SAC and the Lee Valley SPA)
- Policy T 1 (Sustainable Transport Choices).
- Policy DM 21 (Local Environmental Impacts, Pollution and Land Contamination).
- Policy D 5 (Communications Infrastructure).

3.13 Within the context of these Policies, air quality on each European site is discussed below.

Epping Forest SAC

3.14 Epping Forest SAC is known to be adversely affected by relatively poor local air quality alongside the roads that traverse the SAC and this has been demonstrated to have negatively affected the lichen communities of the woodland. The nature of the road network around Epping Forest SAC is such that journeys between a number of key settlements around the Forest by car, van or bus effectively necessitate traversing the SAC. Modelling undertaken for the West Essex/East Hertfordshire Housing Market Area authorities in 2016 indicates that even on B roads through the SAC vehicle flows are substantial (e.g. a 2014 base case of c.20,000 AADT on the B1393 with roadside NOx concentrations of 60µgm^{-3}, twice the critical level) while the A121 between Wake Arms Roundabout and the M25 had 2014 base flows of 25,000 AADT. Moreover, lengthy queues are known to build around most arms of Wake Arms Roundabout during peak travel times, which increases emissions compared to the same volume and composition of free-flowing traffic.

3.15 The 2016 modelling was forecasting a net improvement in both NOx concentrations and nitrogen deposition on the modelled links over the period to 2033 even allowing for forecast growth in traffic due to all sources. In other words the scale of improvement was forecast to more than offset any additional emissions from the 'in combination' increase in road traffic. This net improvement was forecast even though the allowance made for such improvements in the 2016 modelling was considerably more conservative than that advised in Defra guidance.

3.16 Notwithstanding the results of the 2016 modelling, the authorities recognise the uncertainties inherent in any forecasting, the absence of ammonia forecasts from the 2016 work (not a standard component of road traffic impact assessment, but specifically requested in this case) and the inability at the time the 2016 modelling was undertaken to factor in the effect of queuing traffic at Wake Arms Roundabout. They also recognised that the air quality on many links was still forecast to be higher than the critical level and critical load even allowing for the improvement attributable to changes in vehicle emissions. The authorities thus considered that it was appropriate for them to take active steps to minimise the increase in traffic flows and improve air quality, rather than rely entirely on the (inter)national initiatives such as improvements in emission factors.

3.17 As a result of that modelling and broader discussion with Natural England and the City of London Corporation, the HMA authorities agreed that a mitigation strategy be devised (see Memorandum of Understanding agreed in February 2017). Since that commitment was made governance arrangements are in place to develop an action plan and traffic modellers have been working on potential traffic mitigation scenarios. That modelling includes a series of 'constrained' scenarios, which are the real-world scenarios accounting for traffic that might reassign given associated delay and congestion once flows on a link reach a certain point. The focus of the first stage of mitigation exploration has been Wake Arms Roundabout, as this is known to be the most congested part of the network in Epping Forest SAC. For all five approaches to the roundabout current modelling forecasts that mitigation would be able to keep flows similar to (or better than) the current base case, or at least achieve flows that would be better than Do Minimum (i.e. the future baseline without the Epping Forest Local Plan or any mitigation initiatives). Due to the expected improvements in vehicle emissions factors over the plan period, keeping flows at the current base case would be expected to result in a substantial net improvement in NOx emissions by 2033. Keeping flows at (or below) Do Minimum levels would at least address the contribution of the Epping Forest Local Plan and may also result in a net improvement in air quality given accompanying improvements in emissions technology. It should also be noted that the modelling does not yet factor in any other potential mitigation measures, such as any increase in uptake in electric vehicles (although this is part of Local Plan policy).

3.18 The traffic modelling needs to be further refined to take account of downstream impacts since introduction of mitigation on one part of the network can cause issues on another part of the network which then need to be addressed in turn. There is also scope for further improvements. Away from Wake Arms Roundabout there are still several links where a large net increase in vehicle flows is forecast 'in combination' and these will also need to be considered for mitigation. As the preferred traffic modelling scenario (including traffic mitigation options) is refined, the air quality modelling will be updated. A programme of long-term air quality monitoring is also being planned with input from the City of London Corporation. This will be useful in air quality model verification but its main value will be in tracking the expected improvement in emissions over the plan period. This will be useful in air quality model verification but its main value will be in tracking the expected improvement in emissions over the plan period. This can feed into any regular reviews of housing/employment quantum and mitigation measures over the plan period.

3.19 The updating of traffic and air quality modelling and the testing and securing of specific mitigation measures will clearly be an iterative process. However, it is considered that the firm commitment to the development of mitigation strategies to address air quality around Epping Forest SAC, the commencement of work on those solutions, the agreement to a deadline for devising those strategies, and the authorities commitment to monitor the efficacy of those strategies put a sufficient framework in place to ensure no adverse effect arose on the integrity of the SAC.

4. Water Abstraction

4.1 The proposed site allocations across Epping Forest District could not be dismissed in the initial sift from potentially posing likely significant effects upon the Lee Valley SPA/ Ramsar site internationally designated sites as a result of changes to water levels due to abstraction for public water supply. Almost all settlements within Epping Forest District receive their potable water supply through Affinity Water. Within its catchment Affinity Water abstracts water from tributaries of Lee Valley SPA/Ramsar site. However, Affinity Water's current Water Resource Management Plan covers the period up to 2040 and states that an HRA of the WRMP has been undertaken and that they have been able to demonstrate sufficient alternative supply options to ensure that adverse effects on European sites can be avoided. As such, it can be concluded that delivery of the Epping Forest District Local Plan will not result in adverse effects on Lee Valley SPA/Ramsar site through excessive water drawdown, either alone or in combination with other plans and projects.

5. Water Quality

5.1 The proposed site allocations around Harlow could not be dismissed from posing likely significant effects upon the Lee Valley SPA/ Ramsar site internationally designated sites. This was as a result of changes to water quality from treated wastewater discharge. The site allocations around Harlow are likely to be served by Rye Meads Wastewater Treatment Works which discharges treated effluent into the Rye Meads part of Lee Valley SPA/Ramsar site.

5.2 Provided effluent from new development within the Rye Meads catchment can be accommodated within the existing volumetric discharge consent for the WwTW it can be concluded with confidence that an adverse effect on the SPA/Ramsar site is unlikely to occur from this pathway. However, once the WwTW ceases to have capacity within its existing discharge consent for effluent from additional dwellings, it will be necessary for Thames Water to apply to the Environment Agency to increase the consented discharge volume, or direct flows to an alternative treatment facility. The Environment Agency is very unlikely to consent to an increase in discharge volume from the WwTW unless the phosphate concentration within the effluent can be further tightened to ensure no deterioration in water quality in Tollhouse Stream. There is a technical limit (known as the limit of Best Available Technology) to how much phosphorus removal a WwTW can incorporate. If this situation arises, there is a risk that future dwellings within the catchment could not be accommodated at Rye Meads WwTW, requiring an alternative treatment solution that does not as yet exist.

5.3 A recent (June 2017) Position Statement issued by Thames Water to Epping Forest District and other relevant authorities has clarified that from a final effluent stream point of view (this being the relevant stream in terms of phosphate loading of discharged effluent) Rye Meads WwTW is expected to have headroom until 2036. This is beyond the plan period and therefore no capacity issues should arise for growth in the catchment. However, it will be necessary to ensure that development within the catchment of Rye Meads WwTW to keep pace with the provision of wastewater treatment infrastructure and environmental capacity there.

6. Conclusion

6.1 Overall, it is concluded that provided progress continues on the development of a recreation/urbanisation mitigation strategy for Epping Forest SAC and refined traffic modelling and mitigation development for the same site in a timely manner, no adverse effect on the integrity of the SAC would occur either alone or in combination with other projects and plans.