

Ref: 807.01

Date: April 16th 2019

Author: Andrew Baker

Technical Note

Review of the Habitats Regulations Assessment for Guildford Borough Proposed Submission Local Plan: Strategy and Sites - Addendum.

I have been asked by Wisley Action Group to critically review the above HRA addendum that has been produced by AECOM for Guildford Borough. The following sets out my professional opinion on the Addendum. There are two key issues that I think are critical; 1. the justification of the autonomous improvements in air quality, and 2. whether it is acceptable to generate more N deposition when critical loads are already exceeded?

1. The justification of the autonomous improvements in air quality.

AECOM have been somewhat selective in the way they have presented the data on declines in deposition rates. For example, the trend graph they have used is for Nitrogen deposition: **reduced (NH_x) vs oxidised form (NO_x)** which is not total nitrogen deposition. In addition, they have 'turned off' from the dataset on the graph other parameters which show less of a marked decline.

Figure 1 is the graph they showed, whereas Figure 2 shows the entire data set. Why they have been selective I could not possibly comment on! You will notice however that not all parameters show such a steady decline. You can see the data at <http://www.apis.ac.uk/srcl/select-a-feature?site=UK9012141&SiteType=SPA&submit=Next>

(You may need to put in the following grid reference to see the data: TQ082585).

Figure 1.

Nitrogen deposition: reduced (NHx) vs oxidised form (NOx)

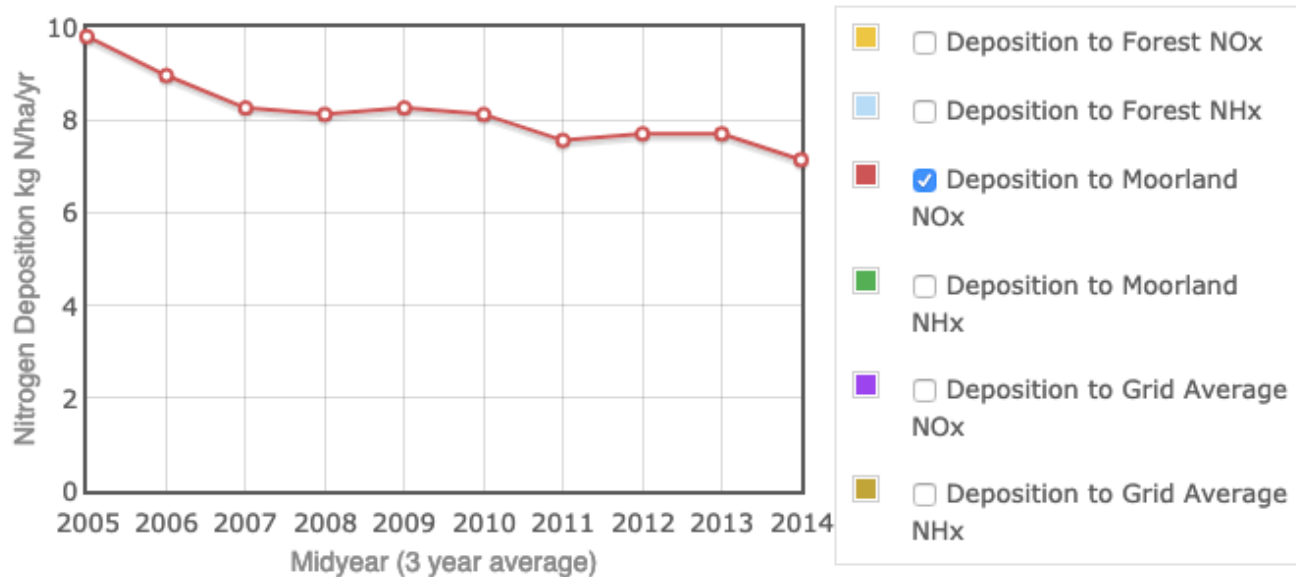
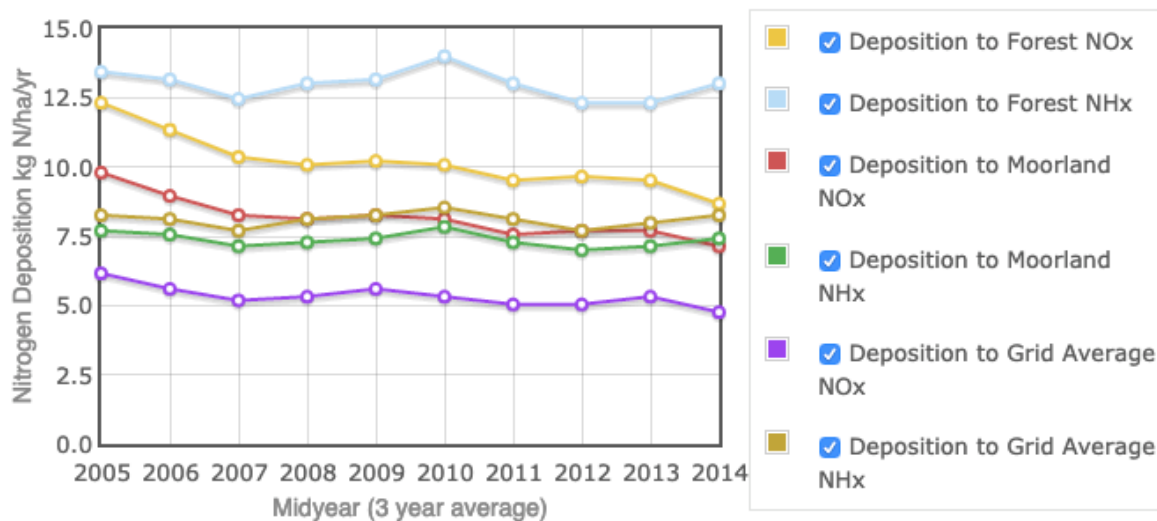


Figure 2.

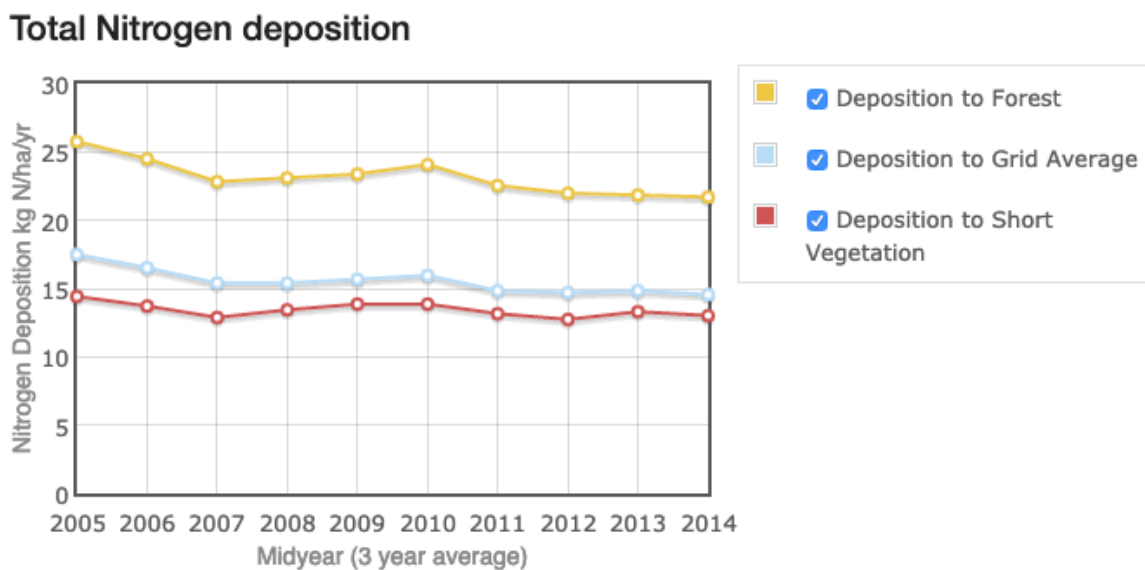
Nitrogen deposition: reduced (NHx) vs oxidised form (NOx)



In my view, the data they should have used is shown in Figure 3 which is the *total* Nitrogen deposition for the site from the same data set. You will immediately notice that these figures are much higher (above critical loads) and particularly in the case of deposition in short vegetation (which is what we are interested in) show much less of a marked decline. Indeed, by my calculation this is only an average annual improvement of 0.79% (decline from 14kg N/ha/yr to 13kg = 0.111kg / year decline = 0.79%). If this trend were to continue it would take 27 years for the total nitrogen deposition to fall below the critical loads for heathland (10kg N/ha/y).

This also shows that their assumed 2% reduction in nitrogen deposition from autonomous improvements in vehicle emissions, far from being precautionary, is more than twice what the historical declines show.

Figure 3.



So this then begs the question whether their assumed autonomous reductions are justified? As set out above, based on the historical data for total nitrogen, it is not.

AECOM quote the DMRB (HA207/07) as the source of the 2% figure. However, this document dates from 2007 and the calculations for the 2% decline are based on data from 1999 -2001¹, data that, a) only covers a short time period, and b) is

¹ The source for these estimates, the APIS data from 1999 – 2001 and Transboundary Air Pollution: Acidification, eutrophication and ground level ozone in the UK. ISBN 1 870393 61 9 (2001).

now 20 years old. As we know from the Dutch nitrogen case (C293/17 and C-294/17) while it is acceptable to factor in autonomous declines in air pollution this must be based on robust scientific evidence which is 'beyond reasonable scientific doubt'. The justification for these assumed autonomous declines is not sufficiently robust to meet the level of certainty that is required by the caselaw. It should also be noted that the DRMB describes these autonomous declines as being 'estimates'. An estimate is defined as '*an approximate calculation or judgement of the value, number, quantity, or extent of something*'.

It is incumbent upon the local authority to ensure that their Appropriate Assessment is robust and fully justified. It is clear to me the Addendum does not provide further clarity but rather creates further doubt over the soundness of the air quality assessment. In order to justify their position, the Council would need to submit empirical evidence that the autonomous reductions are justified. Simply referring to the DRMB from 2007 is not sufficient, as it does not meet the requirements of an assessment carried out under Article 6 (3) that '*cannot have lacunae and must contain complete, precise and definitive findings and conclusions capable of removing all reasonable scientific doubt as to the effects of the plans or the projects proposed on the protected site concerned (judgment of 25 July 2018, Grace and Sweetman, C-164/17, EU:C:2018:593, paragraph 39 and the case-law cited)*' as quoted in paragraph 98 of the joined cases C-293/17 and 294/17.

It should also be noted that the total nitrogen levels show a spike in 2010 which is due to a corresponding spike in ammonia. We know the ammonia levels from diesel vehicles is increasing due to the increasing use of 'adblue' (urea). Furthermore, the use of such fuel additives would not have been included in estimates for autonomous air quality improvement set out in the DRMB from 2007.

2. Continued exceedance of critical loads.

The argument that AECOM has put forward is essentially that the additional traffic growth from Wisley is so small as to present a tiny fraction of additional nitrogen deposition. In my view this argument is flawed. As we put forward at the inquiry, we know that the SPA already receives in excess of critical loads for nitrogen (indeed the actual levels are likely to be higher than those which have been modelled). Critical loads are defined as 'A quantitative estimate of an exposure to one or more pollutants below which significant harmful effects on specified elements

of the environment do not occur according to present knowledge². The corollary of this definition is that over critical loads significant harmful effects do occur (or cannot be ruled out). This is important because of the structure of the Habitat Regulation and the legal test set out in Article 6 (3) where it is incumbent upon the competent authority to show that a plan will **not** have an adverse effect upon the integrity of a site. Because of the need to prove a negative (beyond reasonable scientific doubt (see above)), if there is any doubt over an assessment then the test is failed. Therefore, if critical loads are exceeded it is therefore necessary to assume a negative assessment. To assume otherwise would mean that the critical loads (set out by APIS) were too stringent, however if one were to argue this then it would be necessary to prove this to be the case beyond reasonable scientific doubt.

I put forward this argument at the inquiry but the inspector in his report roundly dismissed my logic. However, since the inquiry, my observations of the exceedance of critical loads has been supported by Advocate General Kokott in her opinion of the joined cases C- 293/17 and C-294/47 where she considered the definition of critical loads and the implication of exceedance.

At paragraph 62. of her opinion she states *'it seems difficult, if not impossible, to accept values that are higher than the critical loads. These are intended to define scientifically-based load limits for vegetation types or other protected assets, compliance with which means that pollutant deposition is not expected to have significant harmful effects even in the long term.'*

It is clear that the exceedance of critical loads is fundamentally at odds with achieving the objectives of the Habitats Directive and the specific legal tests set out in Article 6 (3).

In the HRA addendum, AECOM go on to dismiss the additional traffic from RHS Wisley because it will make little difference to critical loads being achieved by the end of the

² Nilsson, J., and Grennfelt, P. (1988), 'Critical loads for sulphur and nitrogen. Report from a workshop held at Skokloster, Sweden 19–24 March 1988', NORD miljørapport 1988:15. Copenhagen: NORD

plan period. This argument completely ignores the damage that will be done prior to this, notwithstanding the fact that there is no scientific justification for the autonomous reductions that have been assumed.

The HRA addendum also dismisses the impact of the additional nitrogen, arguing that the key effect of increased N is floristic effects and whereas the birds species are more affected by habitat structure (paragraph 3.1.7). This assessment is flawed because it only considered the effects of vegetation structure on nesting preference. Nitrogen has much broader effects, for example floristic diversity is known to be reduced which will have consequential effects upon invertebrates. In turn the invertebrates are potential prey items for the SPA birds. The AECOM addendum is incorrect in that it concentrates purely on the structure of the habitat and completely ignores the function and how the change in function as a result of nitrogen deposition may affect the species for which the SPA is designated.

Conclusions

The January 2019 Addendum to the RHA of the Submission Local Plan presents no meaningful scientific information to address the criticisms that have been made of the HRA. Neither the HRA nor the Addendum show any scientific justification for the assumed future autonomous reductions in nitrogen deposition.

The HRA was flawed in not considering the traffic growth generated from RHS Wisley and did not assess all in combination effects. These in combination effects mean that the critical loads continue to be exceeded even up until the end of the plan period. Consequently, it is not possible to come to the conclusion that the Guildford Borough Proposed Submission Local Plan: Strategy and Sites will not have an adverse effect upon the Thames Basin Heaths SPA.