Consideration of critical levels for the Protection of Vegetation and Ecosystems

Predicted concentrations of ammonia

Figure 8.3 of the main report shows that, at Therfield Heath, the PCs to annual average concentrations of NH_3 are not screened out. Note that, as the woodland habitat may include sensitive lichen and bryophytes communities, the more stringent critical level was used for Therfield Heath.

As the background concentration, 1.9 $\mu g/m^3$, is already nearly double the critical level of 1 $\mu g/m^3$, the PEC exceeds the critical level .

Figure 1 shows a contour plot of the PC to annual average concentrations of NH_3. Exceedance of 1% of the critical level is predicted over the part of Therfield Heath which is within the 0.01 $\mu g/m^3$ contour.

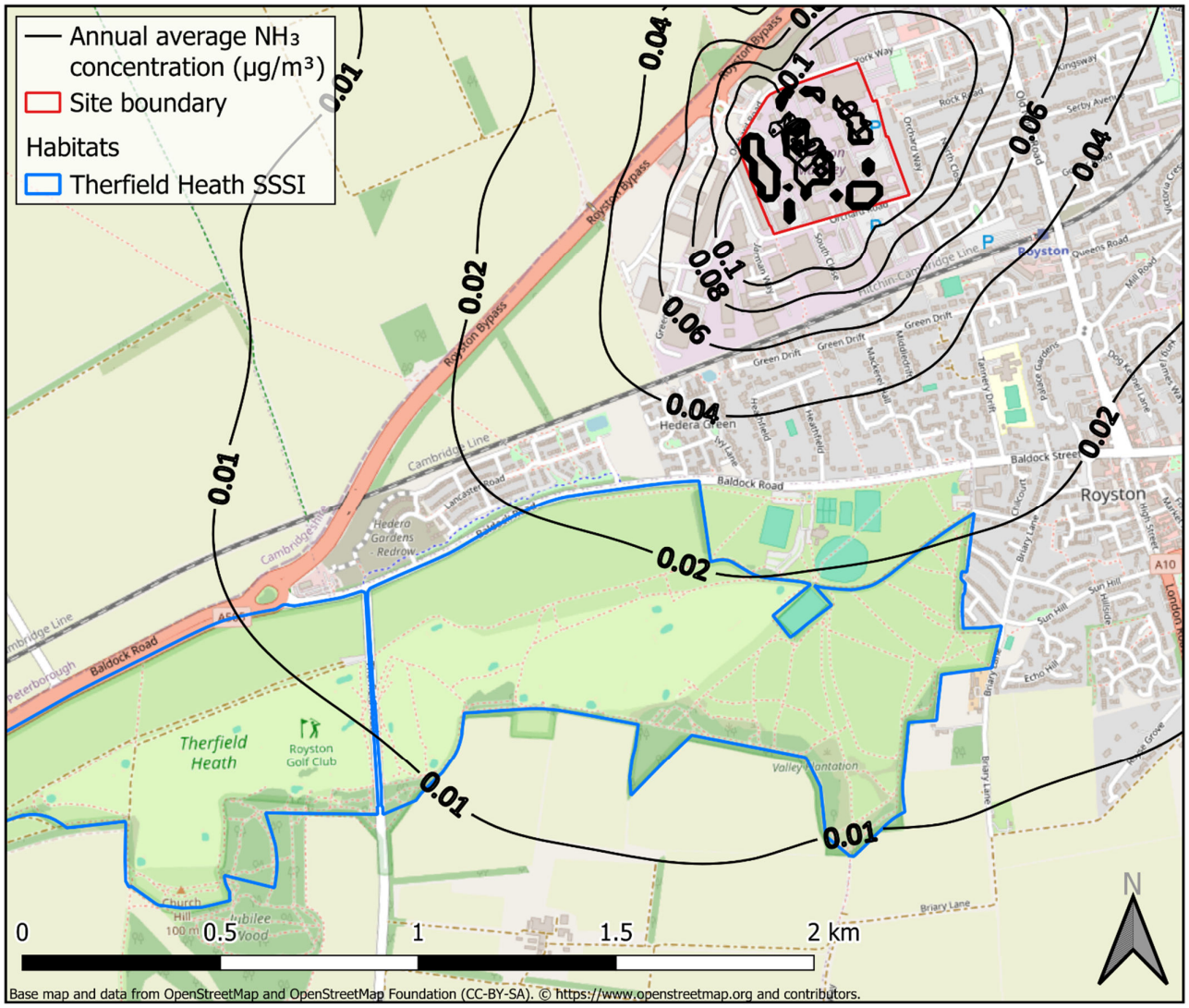

Figure 1: Contour plot of the PC to annual average NH_3 concentration, using meteorological data for the year 2021

Consideration of critical loads for the Protection of Vegetation and Ecosystems

Deposition of nitrogen

Table 9.1 of the main report shows the habitat types, critical loads and total nitrogen deposition values at the designated conservation areas, taken from the Air Pollution Information System (APIS) website[1]. At all sites, the existing total nitrogen deposition rates exceed the most stringent critical load value.

Process contribution to nitrogen deposition

Tables 9.1 and 9.2 of the main report show that the PCs to Nitrogen deposition are not screened out at Therfield Heath (both woodland and grassland habitats), Holland Hall (grassland) or Melbourn (grassland).

Figure 2 shows a contour plot of the PC to Nitrogen deposition calculated for the woodland habitat (only applicable to some areas of Therfield Heath). Exceedance of 1% of the lower critical load value is predicted over the woodland parts of Therfield Heath which are within the 0.1 $kgNha^{-1}yr^{-1}$ contour.

Figure 3 shows a contour plot of the PC to Nitrogen deposition calculated for the grassland habitat, applicable to all three areas. Exceedance of 1% of the lower critical load value is predicted over those parts of each of the areas which are within the 0.1 $kgNha^{-1}yr^{-1}$contour.

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

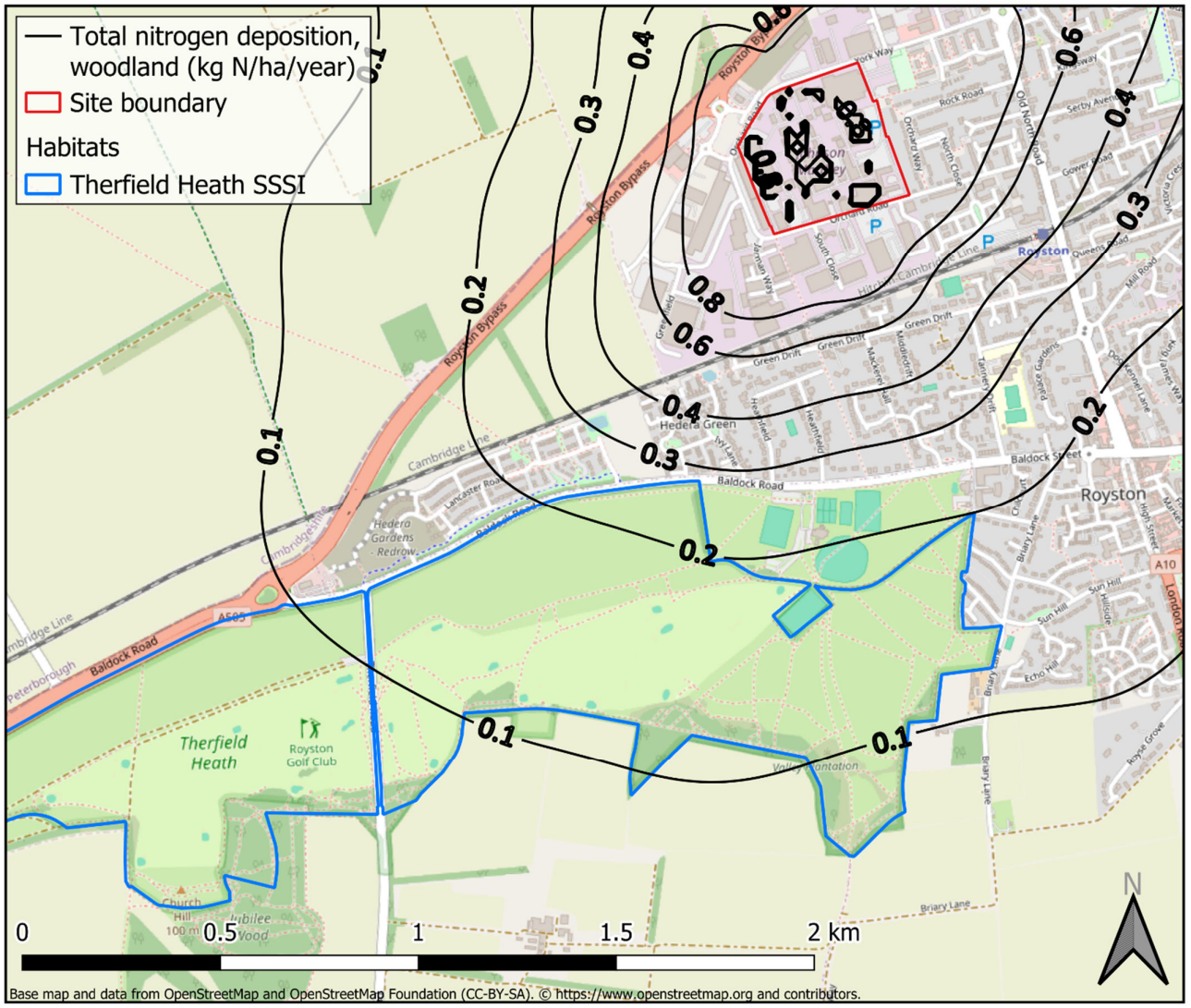

Figure 2: Contour plot of the contribution to nitrogen deposition for woodland habitat, 2021 met data

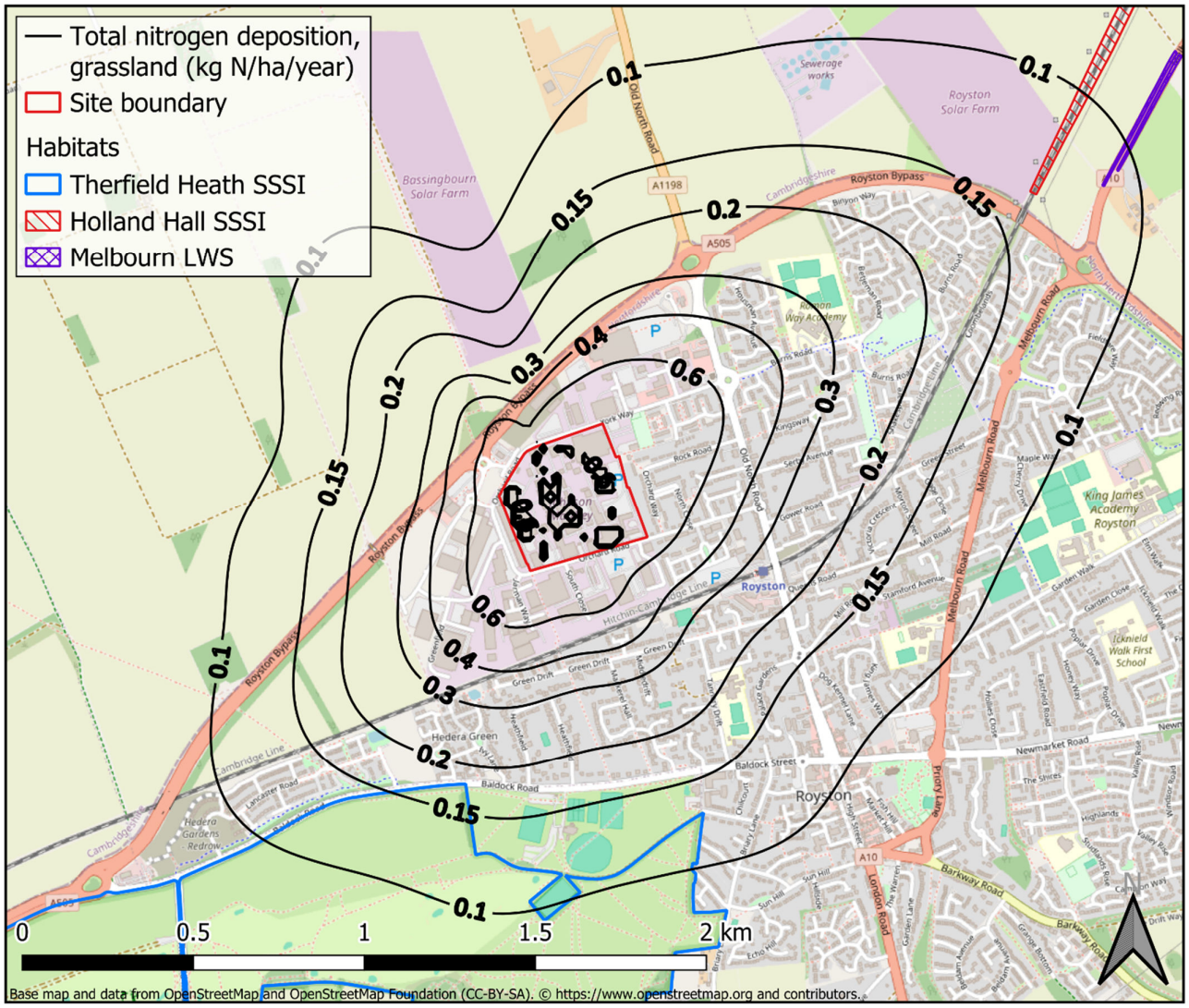

Figure 3: Contour plot of the contribution to nitrogen deposition for grassland habitat, 2021 met data