

# Nitrogen Deposition and the threat to our Natural Environment – An Overview

Keith Finegan

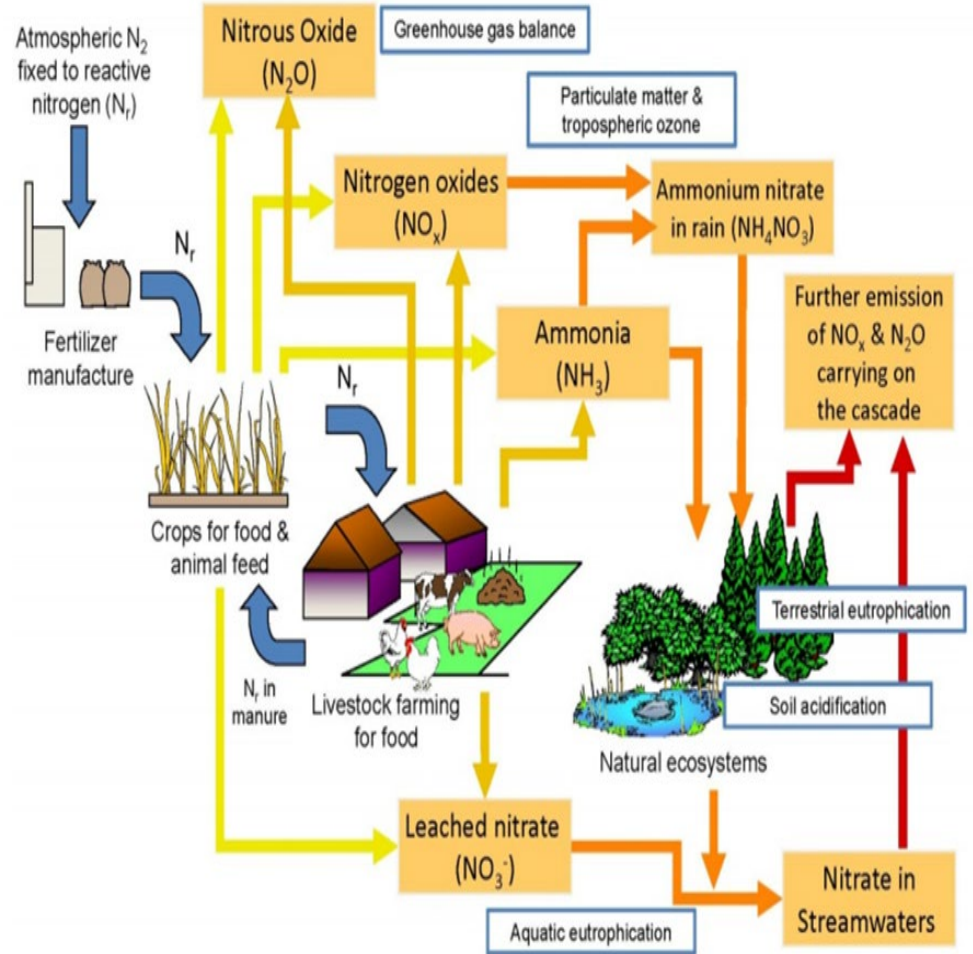
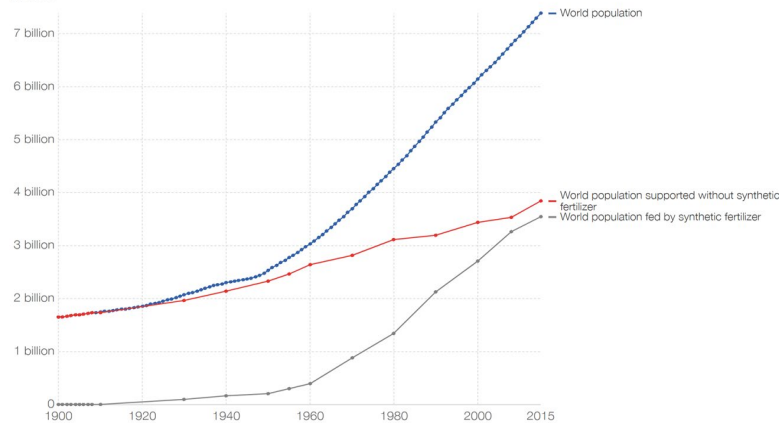
NIEA Natural Environment Division

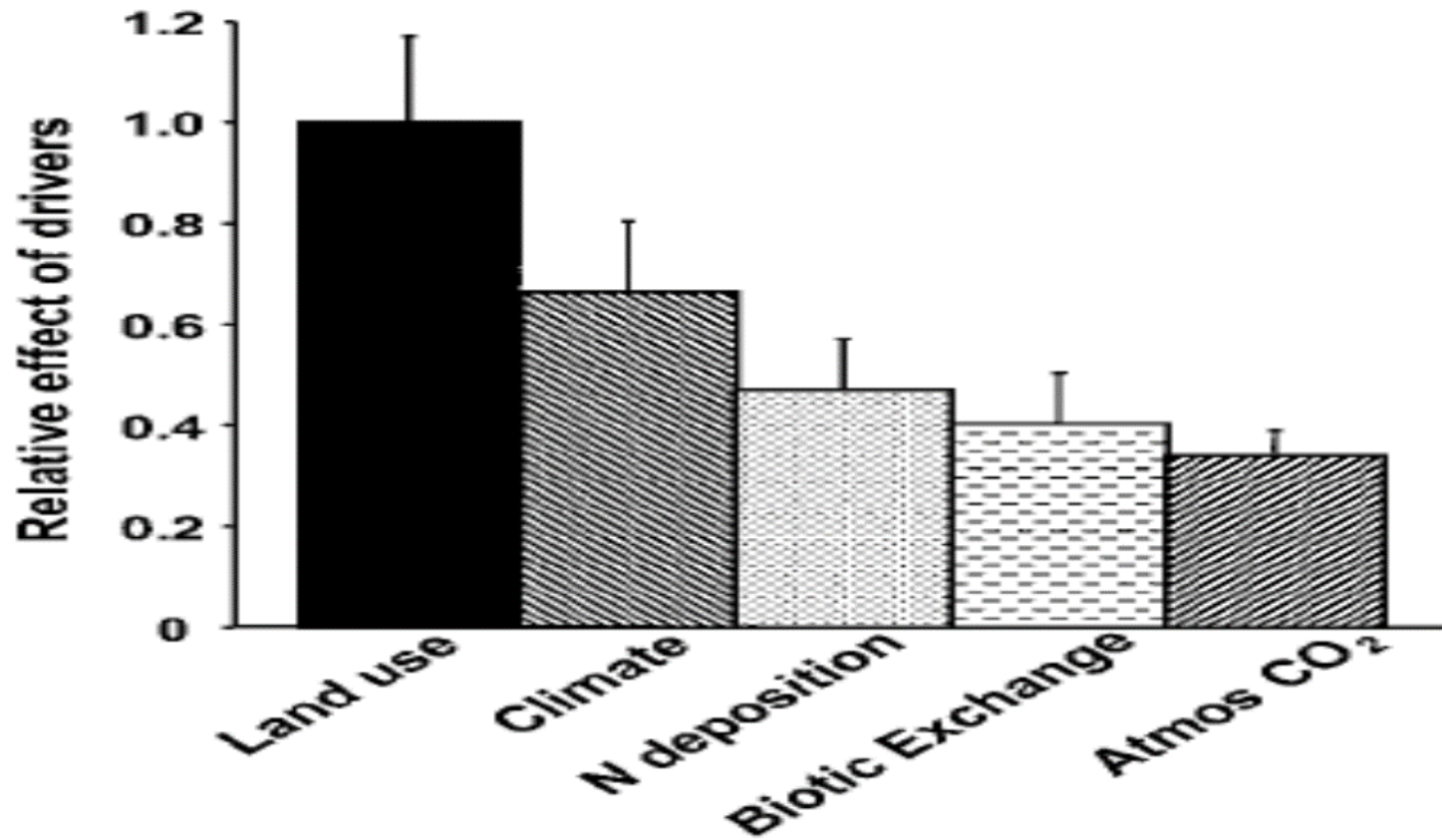
# Why are we worried about Nitrogen?



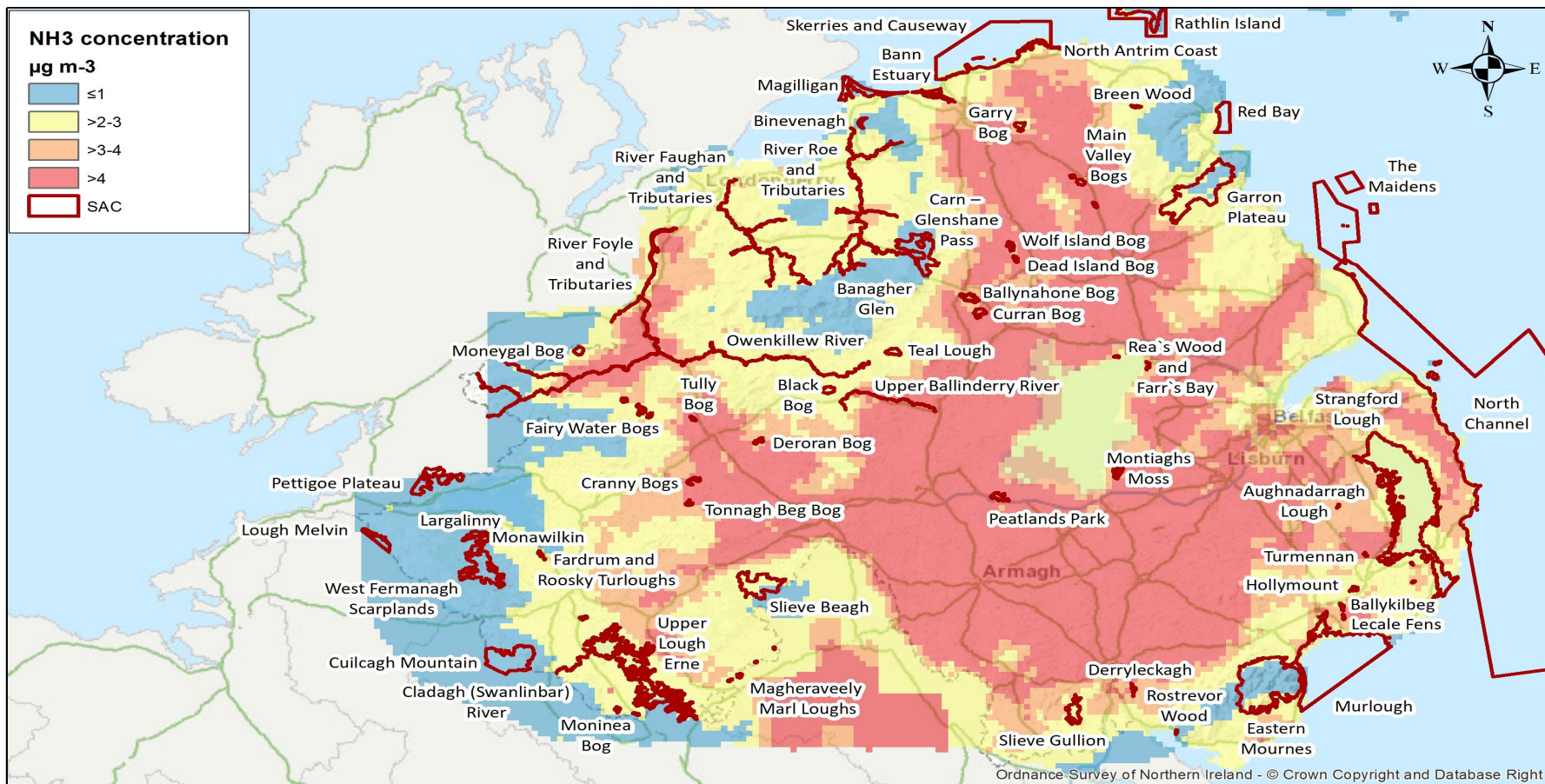
## World population with and without synthetic nitrogen fertilizers

Estimates of the global population reliant on synthetic nitrogenous fertilizers, produced via the Haber-Bosch process for food production. Best estimates project that just over half of the global population could be sustained without reactive nitrogen fertilizer derived from the Haber-Bosch process.





Sala et al. (2000) Science 287: 1770-1774.



**Title:** NI Ammonia Concentration & SACs

**Scale:** 1:880,782

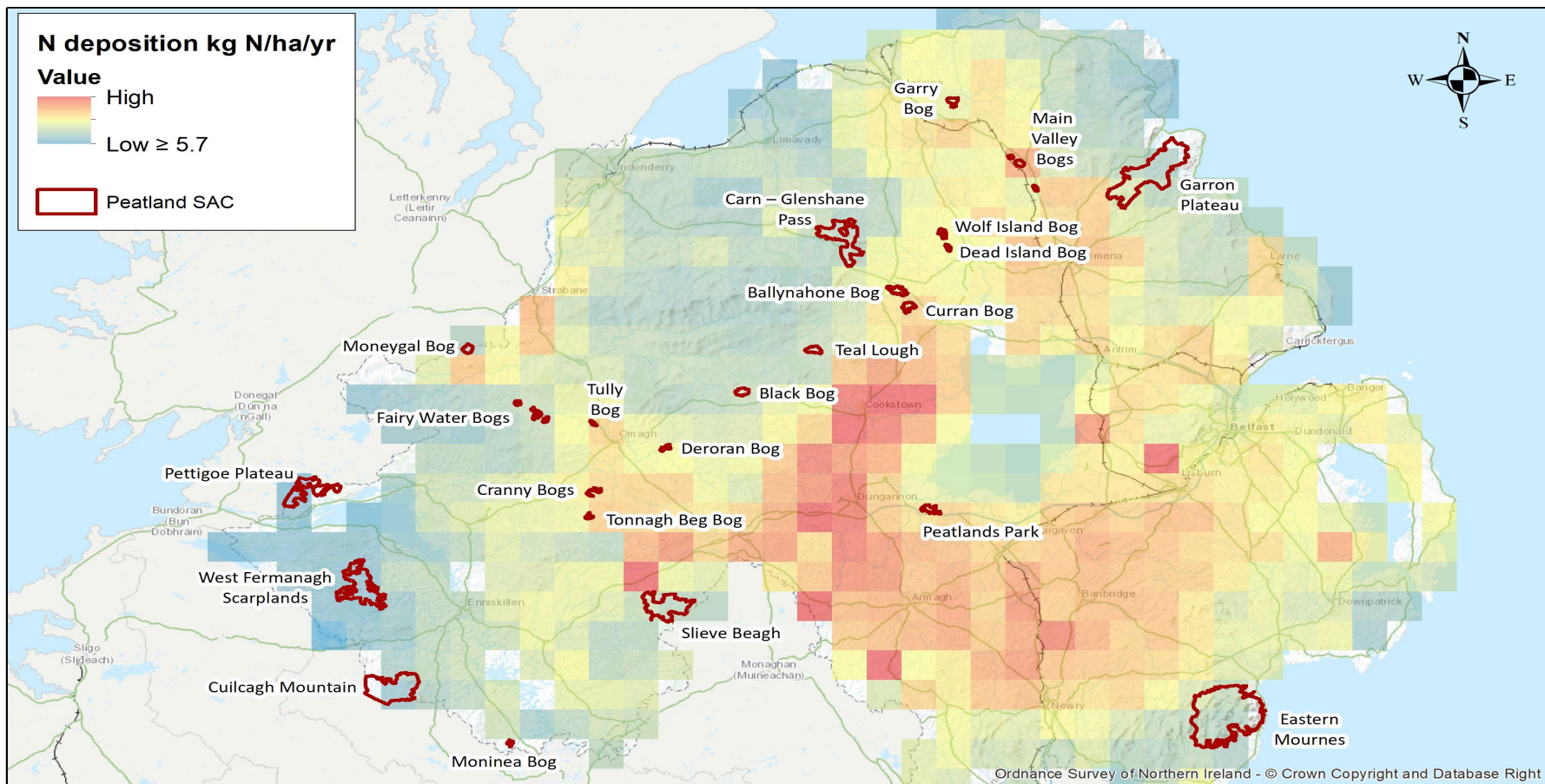
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**Title:** NI Ammonia Deposition & Peatland SACs

**Scale:** 1:800,000

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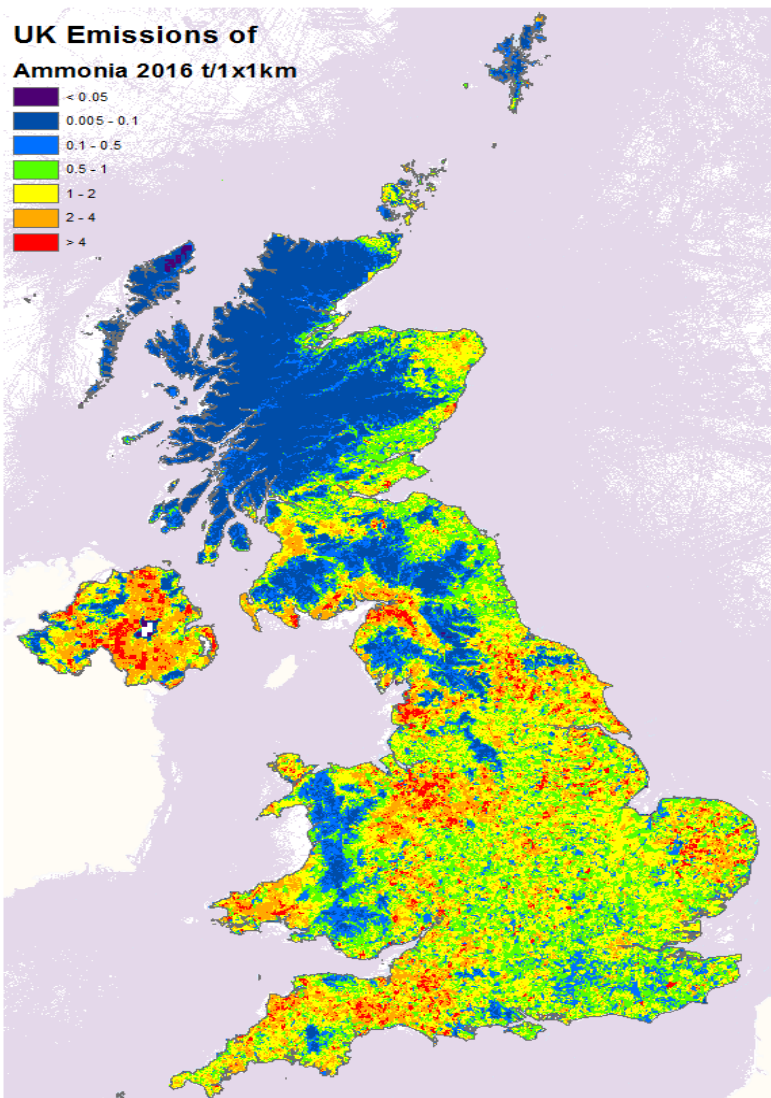
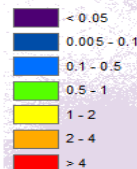
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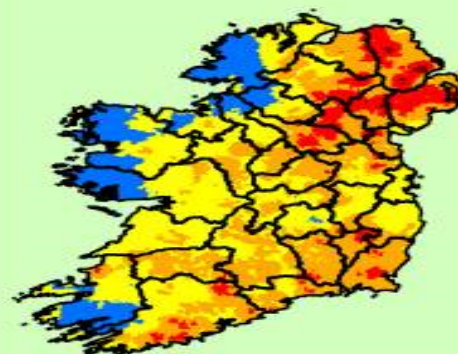
# UK Emissions of

Ammonia 2016 t/1x1km

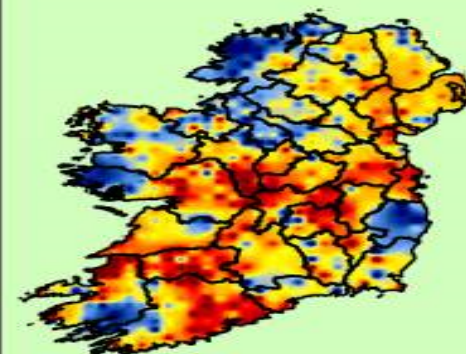


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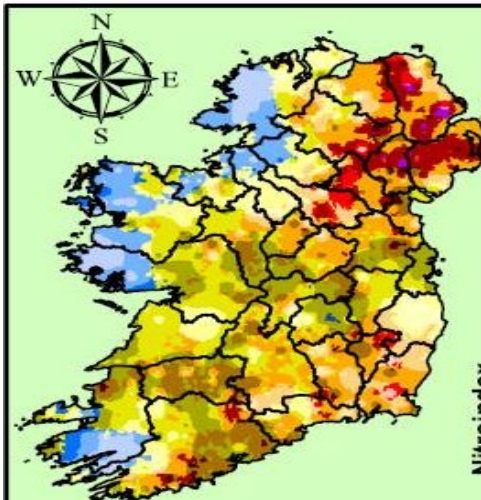
## MARSH



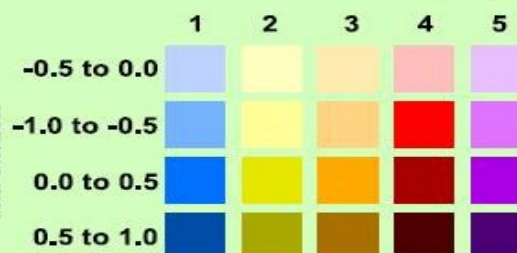
## Nitroindex



## MARSH Risk & Nitroindex Bivariate Map



### MARSH Risk Category



Mapping ammonia risk on sensitive habitats in Ireland, Kelleghan et al (2018)

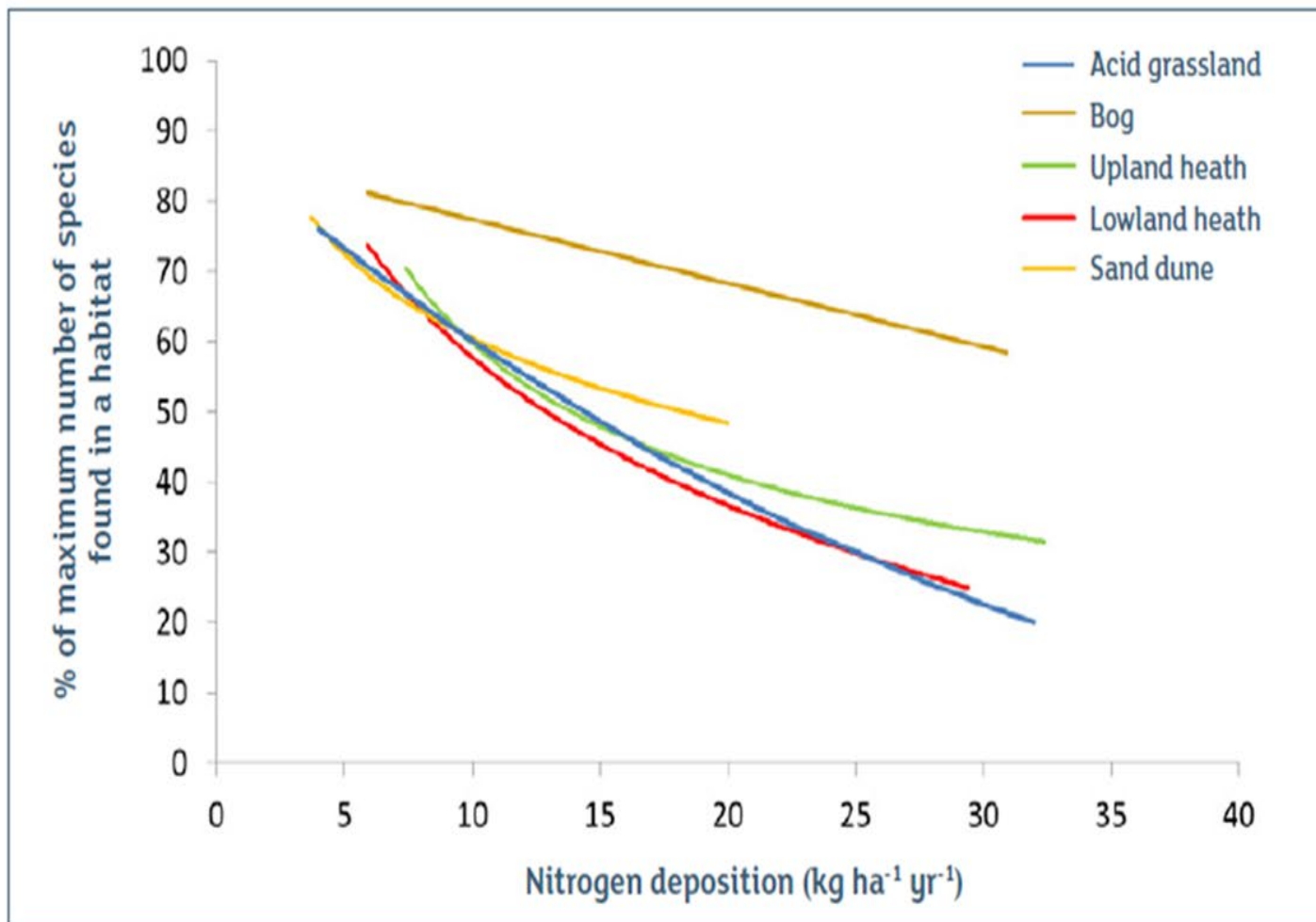


Figure 6: The role of nitrogen deposition on widespread plant community change across semi-natural habitats

Source: Field et al (2014)<sup>18</sup>