

Science for Environment Policy

Biodiversity protection in the Netherlands

Two thirds of natural areas in the Netherlands suffer from at least one of four key environmental pressures including nitrogen pollution, drying, acidification and habitat fragmentation, a new study suggests. Possible solutions to enable the country to meet its commitments under the EU's biodiversity targets include moves towards sustainable farming and reduction of nitrogen outputs, the researchers conclude.

The Natura 2000 network¹ was established to prevent [biodiversity](#) and habitat loss across Europe and to fulfil the EU's obligations under the UN Convention on Biological Diversity². According to the Natura Barometer, as of January 2014, 27 221 sites in 28 EU member states are protected under Natura 2000, covering 18% of total land area³. This includes 203 sites in the Netherlands, which cover 14% of the country's total land area.

In the Netherlands, some of the most important pressures on biodiversity are intensive [agriculture](#) and industry, leading to nitrogen pollution and drought or desiccation of land by lowering of the groundwater level. These pressures have resulted in acidification of soil, eutrophication and habitat fragmentation.

For this study the researchers focused on nitrogen deposition, desiccation, acidification and habitat fragmentation in the Netherlands. They mapped these pressures for both Natura 2000 and other, natural sites because many species are dependent on habitats both within and outside the network.

For nitrogen deposition, they set a critical load that indicates a limit above which significant harmful effects are assumed to occur. This limit was exceeded across 70% of the total area studied. There were 26 habitat types, including fens and raised bogs, where the limit was exceeded for 95% of the area studied. In maps combining all four environmental pressures, nitrogen deposition was often associated with desiccation. Thirty of the 63 habitat types studied were dependent on groundwater levels. For these habitat types, 91% of the area studied suffered from desiccation, the affected area making up a fifth of all natural land in the Netherlands.

The results also show that 40% of soils suffer from acidification, with sandy soils being worst affected. Finally, habitats were not badly fragmented, but connectivity of habitats was low for six of the 80 species considered.

Overall, two thirds of the natural areas in the Netherlands suffer from at least one of the four pressures. The researchers conclude that desiccation and nitrogen pollution are the major obstacles to meeting the objectives of the Natura 2000 network in the Netherlands and the Dutch government must take extensive measures to improve conditions. Sustainable farming and reduction of nitrogen outputs may form a key part of the solution, they conclude.



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1. http://ec.europa.eu/environment/nature/natura2000/index_en.htm

2. <http://www.cbd.int/>

3. http://ec.europa.eu/environment/nature/info/pubs/docs/nat2000news/nat34_en.pdf