

Exceedance of critical loads for nitrogen deposition on nature, 1995-2016

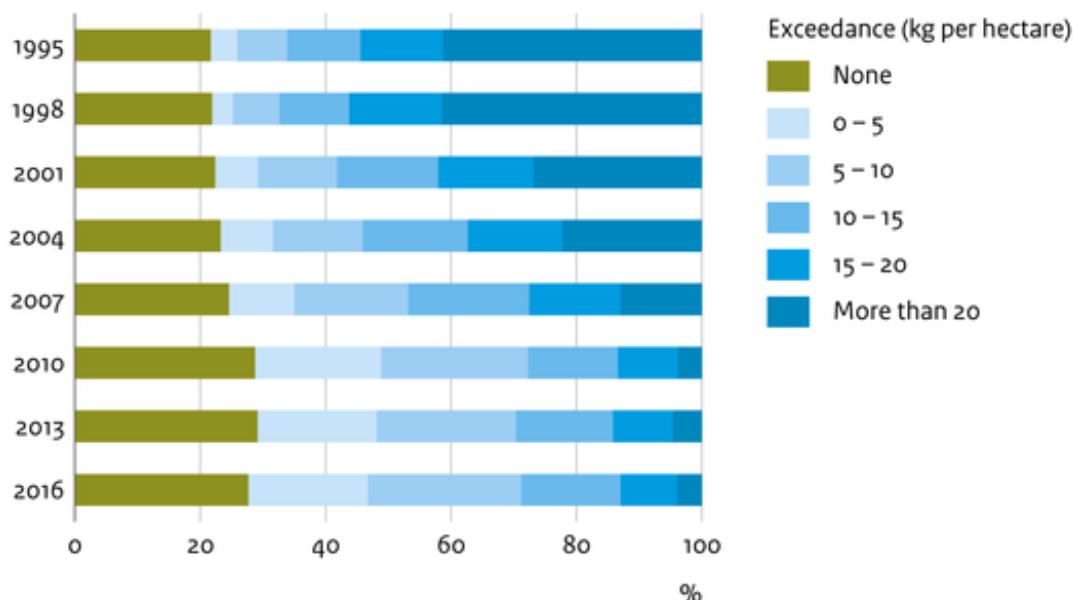
Indicator | 6 May 2019

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The average nitrogen deposition on terrestrial ecosystems in the Netherlands has stabilised in recent years. However, across large areas of different ecosystems the deposition levels still exceed the critical loads for sustaining good ecological quality. The average degree of exceedance is particularly high in the forest and heath ecosystems.

[figuurgroep]

Exceedance of critical loads for nitrogen deposition on terrestrial ecosystems

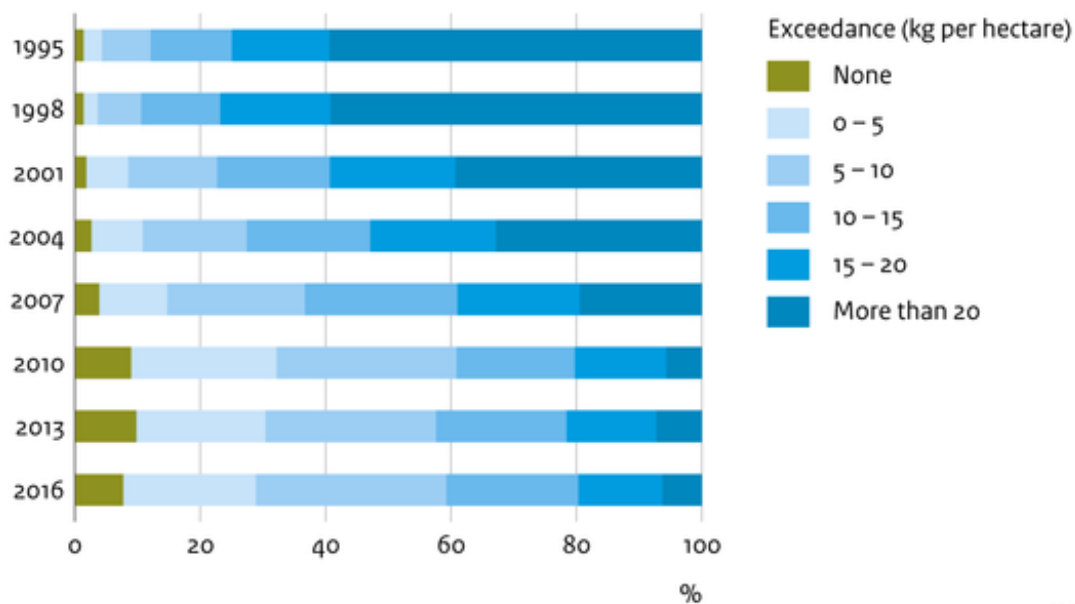


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Exceedance of critical loads for nitrogen deposition on forest

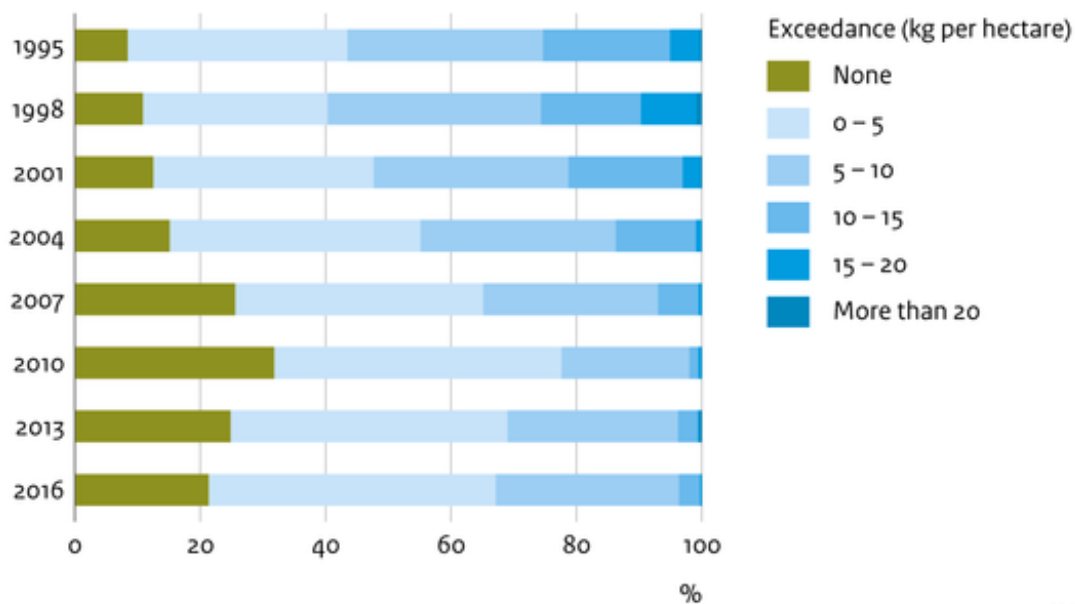


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Exceedance of critical loads for nitrogen deposition on open dune

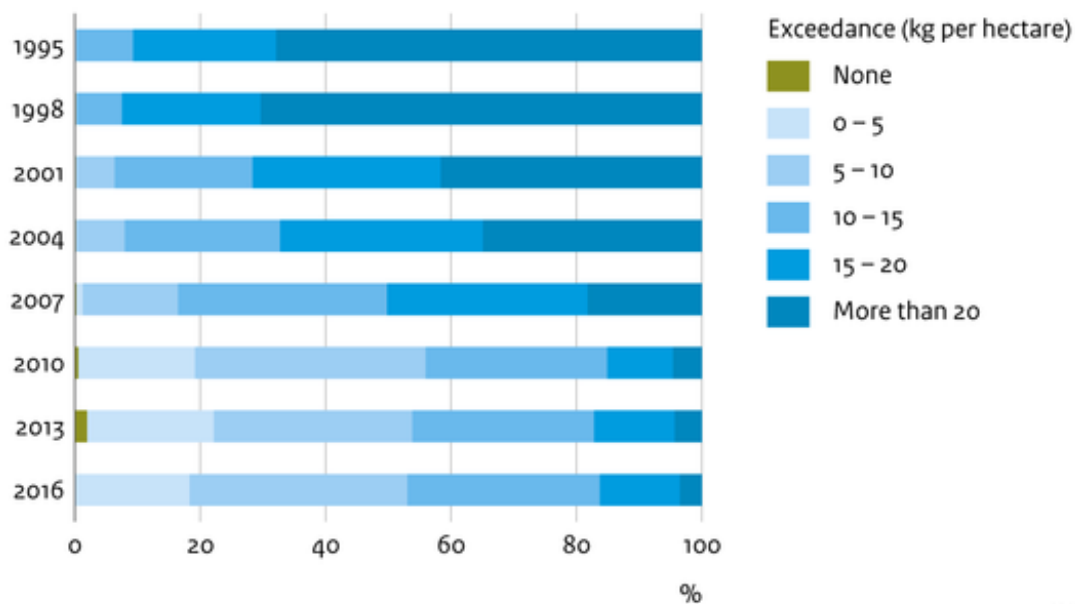


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Exceedance of critical loads for nitrogen deposition on heath

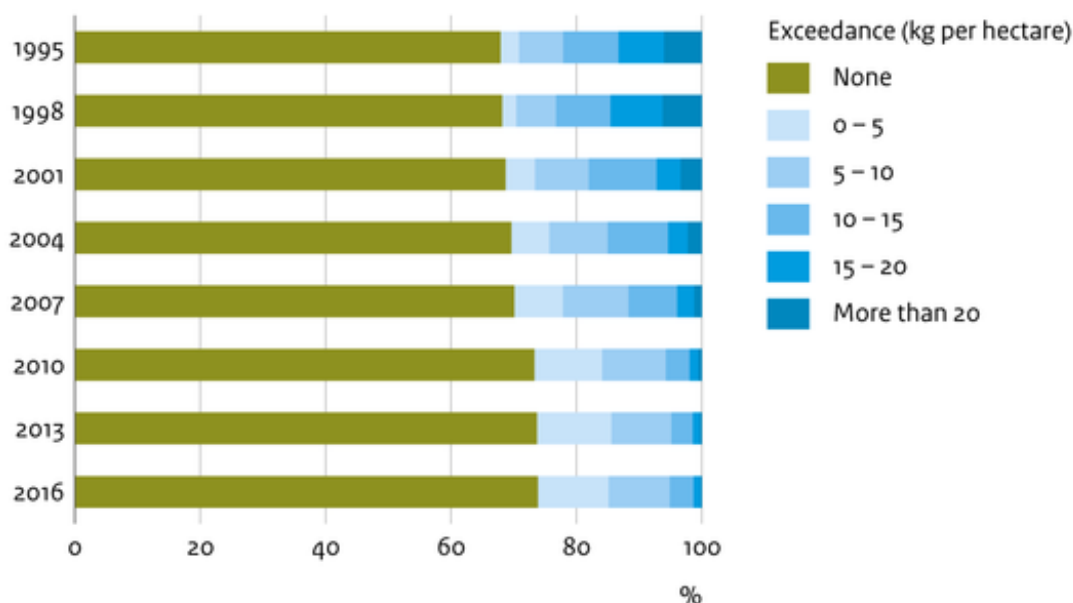


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Exceedance of critical loads for nitrogen deposition on semi-natural grassland and marsh



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[/figuurgroep]

Nitrogen deposition in natural areas above critical levels

The area of ecosystems where critical loads for nitrogen deposition were exceeded decreased from about 80% in 1995 to about 70% in 2016. The difference between deposition levels and critical load is a measure of the risk of a decline in ecological quality. Vulnerable plant species cannot survive in the long run when nitrogen deposition exceeds the critical load for these species. The higher the exceedance and the longer the period of exceedance, the greater the effects. Nutrient-poor ecosystems are especially sensitive to the environmental stress resulting from nitrogen emissions.

The area where nitrogen deposition does not exceed the critical load (green) is the area of ecosystem assessed as being of 'good ecological quality' in relation to the environmental condition 'deposited nitrogen'.

- [indicator=en1592]

Nitrogen deposition varies from region to region

Nitrogen deposition levels vary across the country and the sensitivity of ecosystems to nitrogen deposition also varies considerably across the country. Forest and heath ecosystems on the naturally nitrogen poor sandy soils in the east of the country are more sensitive than the semi-natural grasslands and marsh ecosystems on clay and peat soils in the west of the country, for example. Ammonia emissions from agriculture are also relatively high in the east. Deposition levels are

therefore on average higher in the east than at the coast, and so exceedance of critical loads on the nitrogen sensitive heaths is higher than on the nitrogen sensitive open dunes.

Restoration measures to combat acidification and eutrophication

An important instrument for improving environmental conditions in natural areas is the Programmatic Approach to Nitrogen (PAS). In this programme the national and provincial governments are taking habitat restoration measures and measures to reduce nitrogen deposition on Natura 2000 sites to levels that will create room for further economic development in nearby areas. Restoration measures can compensate for the negative impacts of excessive nitrogen loads - temporarily or permanently - while deposition levels are still too high. Such measures are aimed primarily at restoring the abiotic conditions required by particular species and habitat types (management objectives). They aim to remove nutrients, for example by removing soil, sod cutting, extra mowing and extra grazing. In general, the lower the local exceedance of the critical load, the more successful and lasting the effects of these measures will be.

In addition to restoration measures to combat the effects of deposition, source control policy measures and additional PAS emission control measures are needed to reduce the levels of nitrogen emissions and deposition.

References

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- Velders, G.J.M., Aben, J.M.M., Geilenkirchen, G.P., den Hollander, H.A., Nguyen, L., van der Swaluw, E., de Vries, W.J. & Wichink Kruit, R.J. (2017). [Grootschalige concentratie- en depositiekaarten Nederland. Rapportage 2017](#). [18] Rapport 2017-0117, Rijksinstituut voor Volksgezondheid en Milieu, Bilthoven.

Relevant information

- [indicator=en0189]

Reference for this page

CBS, PBL, RIVM, WUR (2019). [Exceedance of critical loads for nitrogen deposition on nature, 1995-2016](#) [19] (indicator 2045, version 04 , 6 May 2019). www.environmentaldata.nl. Statistics Netherlands (CBS), The Hague; PBL Netherlands Environmental Assessment Agency, The Hague; RIVM National Institute for Public Health and the Environment, Bilthoven; and Wageningen University and Research, Wageningen.

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