Spatial conditions of the national ecological network, 2019
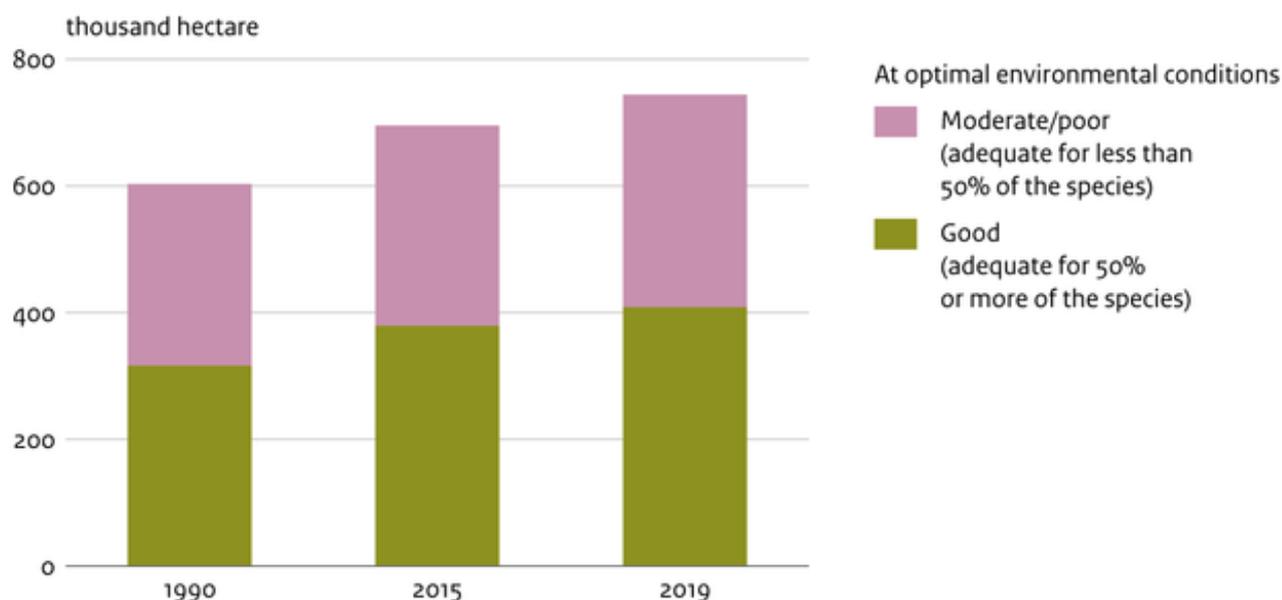
Indicator | 10 November 2021
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The increase in the area of new nature since 1990 has improved the size and connectivity (spatial conditions) of terrestrial ecosystems in the Netherlands. However, a considerable part of the national ecological network consists of areas that are still too small or fragmented to support viable populations of many species.
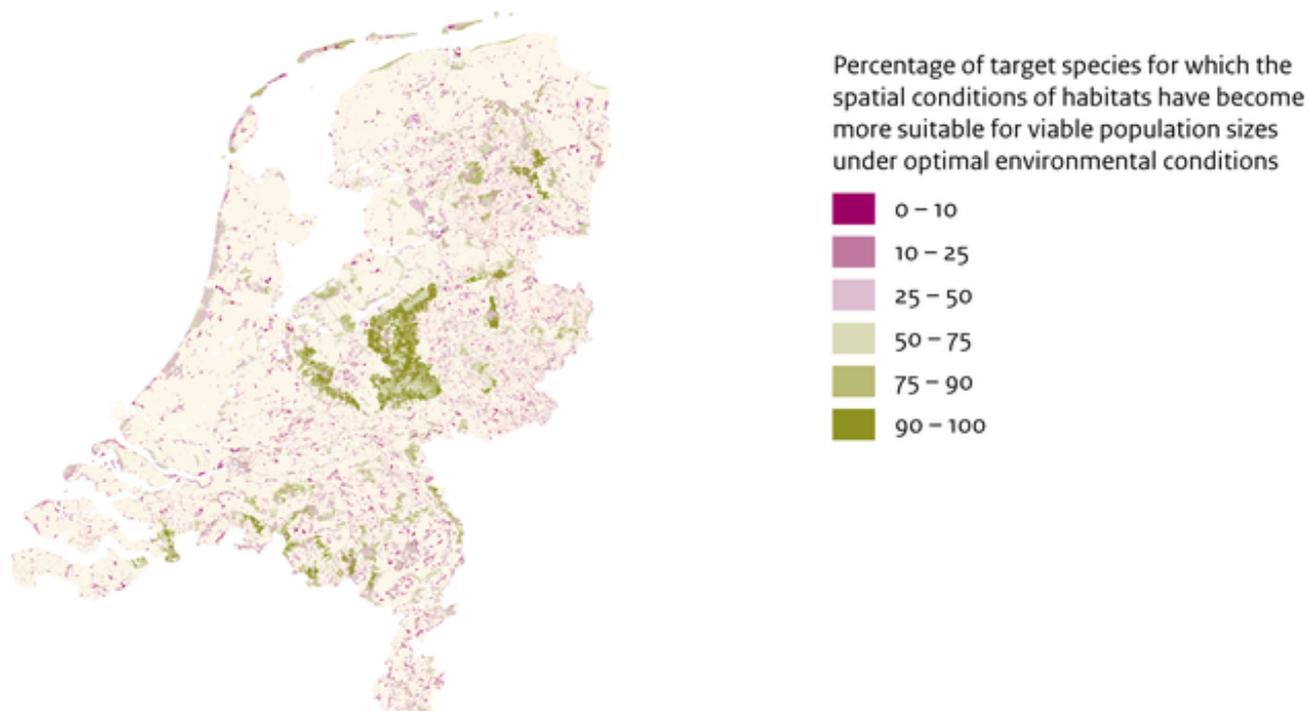
[figuurgroep]

- Download bitmap [2]
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Suitability of terrestrial habitats regarding spatial conditions, 2019

Percentage of target species for which the spatial conditions of habitats have become more suitable for viable population sizes under optimal environmental conditions

- 0 – 10
- 10 – 25
- 25 – 50
- 50 – 75
- 75 – 90
- 90 – 100

Source: Wageningen Environmental Research

WUR/nov21
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[/figuurgroep]

Connectivity and size of natural areas insufficient for many species

The long-term survival of plant and animal species depends crucially on two spatial aspects of their habitats: the conservation or restoration of sufficiently large habitat patches and the possibilities provided by the physical environment for species to disperse between habitat patches. These spatial conditions are not good enough when the habitats of many species are too small and/or too fragmented; in other words, when the habitats are insufficiently interconnected. Many species are on the Red List for this reason.

Natural areas are not equally robust

The connectivity and size of ecosystems and habitats in the Netherlands is variable. Some areas are potentially large enough or are sufficiently connected to each other to enable species to disperse between habitat patches. Examples of areas where the size and connectivity of habitats can be considered to be good are the Veluwe and Utrechtse Heuvelrug (forest and heath on hilly glacial deposits) and various coastal dune areas. However, the connectivity or size of about half the total area of terrestrial ecosystems is moderate to poor. (NB: this assessment of size and connectivity is not the same as the spatial quality categories for these areas in the methodology used by the provinces.)

Some of the areas are too small or fragmented to provide a sufficient area of habitat for most associated species to survive. Since 1990 many natural areas have been enlarged or connected by acquiring surrounding and intervening agricultural land and converting it to nature. Ecological connectivity can also be improved by turning parts of existing areas of habitat (for example forest) into other types of habitat (heath) in order to increase the area of appropriate habitat for particular species (PBL & WUR, 2017). The area of the national ecological network with good connectivity has therefore increased (see the ecological connectivity graph for 1990, 2015 and 2019).

- [indicator=nl1588]
- [indicator=nl1425]

National and provincial governments improving ecological connectivity

The aim of the national ecological network is to create a coherent network of natural areas. This is an important Dutch contribution to international efforts to halt the decline of biodiversity. The Nature Pact (EZ, 2013) contains agreements between the national and provincial governments on nature policy and the realisation of the national ecological network.

In the period 2011-2027 the provinces will convert at least 80,000 hectares to new nature to complete the network. In 2011 they still had to acquire 40,000 hectares of agricultural or other land, either through acquisition and conversion or through a change of designated land use followed by private conservation management (IPO 2015). Previously acquired land will also be converted to nature. The acquisition and conversion to new nature, including the transformation of existing habitat, improves the connectivity of habitat patches.

Fragmentation is caused not only by the presence of intervening areas of intensively farmed agricultural land, but also by the presence of infrastructure. Besides the roads themselves, cattle grids and noise barriers can also present unsurmountable barriers. Species such as badgers, foxes, deer, frogs and even some birds, bats and insects have great difficulty in crossing roads, or may be unable to do so at all. Ecological barriers caused by national infrastructure (dispersal bottlenecks) have been identified and removed under the Multiyear Habitat Defragmentation Programme (MJPO 2005-2018). New infrastructure is to be planned in such a way that it satisfies statutory requirements for nature conservation.

- [indicator=en1307]
- [indicator=en2051]

Policy objectives

A precondition for the sustainable conservation of biodiversity is ecological connectivity to allow plant and animal species to disperse between habitat patches. Biodiversity conservation is an important goal of the Convention on Biological Diversity (CBD) as well as the EU Birds and Habitats Directives and the EU Biodiversity Strategy. The Netherlands is internationally committed to the objectives of the CBD and the Birds and Habitats Directives (Natura 2000).

References

- EZ (2013). Natuurpact ontwikkeling en beheer van natuur in Nederland. Den Haag: Ministerie van Economische Zaken en provincies.
- IPO (2015). Natuur in de provincie. Eén jaar Natuurpact in uitvoering. Den Haag: Interprovinciaal Overleg

- PBL en WUR (2017). Lerende evaluatie van het Natuurpact. Naar nieuwe verbindingen tussen natuur, beleid en samenleving. PBL-publicatienummer 1769. Planbureau voor de Leefomgeving, Den Haag.

Relevant information

- MJPO (2019) Jaarverslag 2018. Meerjarenprogramma Ontsnippering

Reference for this page

CBS, PBL, RIVM, WUR (2021). Spatial conditions of the national ecological network, 2019 [6] (indicator 1523, version 07 , 10 November 2021). 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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