

## Trends in ecological quality, 1994-2017

Indicator | 6 December 2018

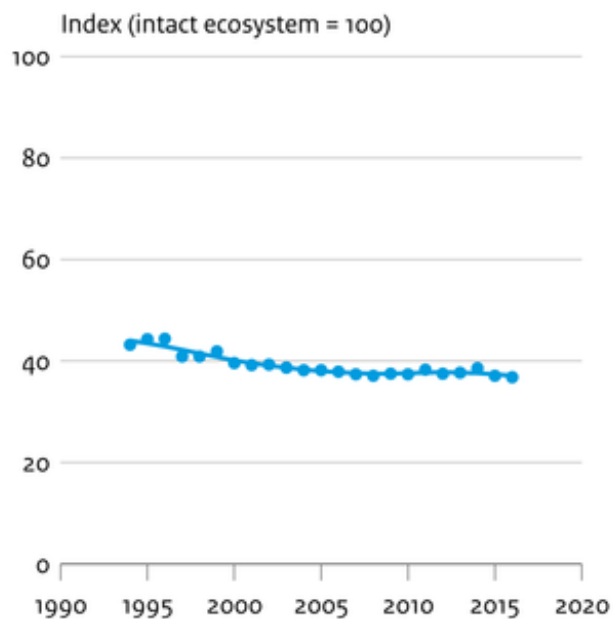
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Since 1994 the average ecological quality of all types of terrestrial ecosystems has declined. This decline has now been halted. In recent years, the average ecological quality of ecosystems has not decreased further, but has not increased significantly either. Compared with the trend on land, the trend for ecological quality in fresh water has been more positive on average over the past 25 years. Since 1990 the ecological quality of fresh surface water has improved slightly.

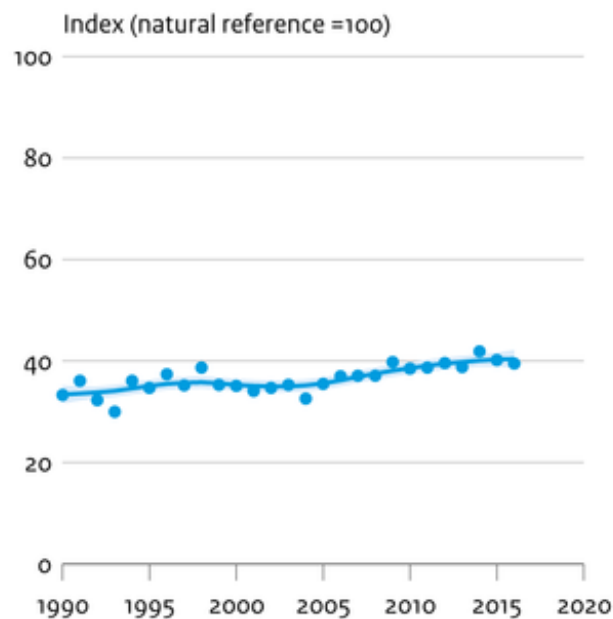
[figuurgroep]

## Average ecological quality

### Terrestrial ecosystems



### Fresh water



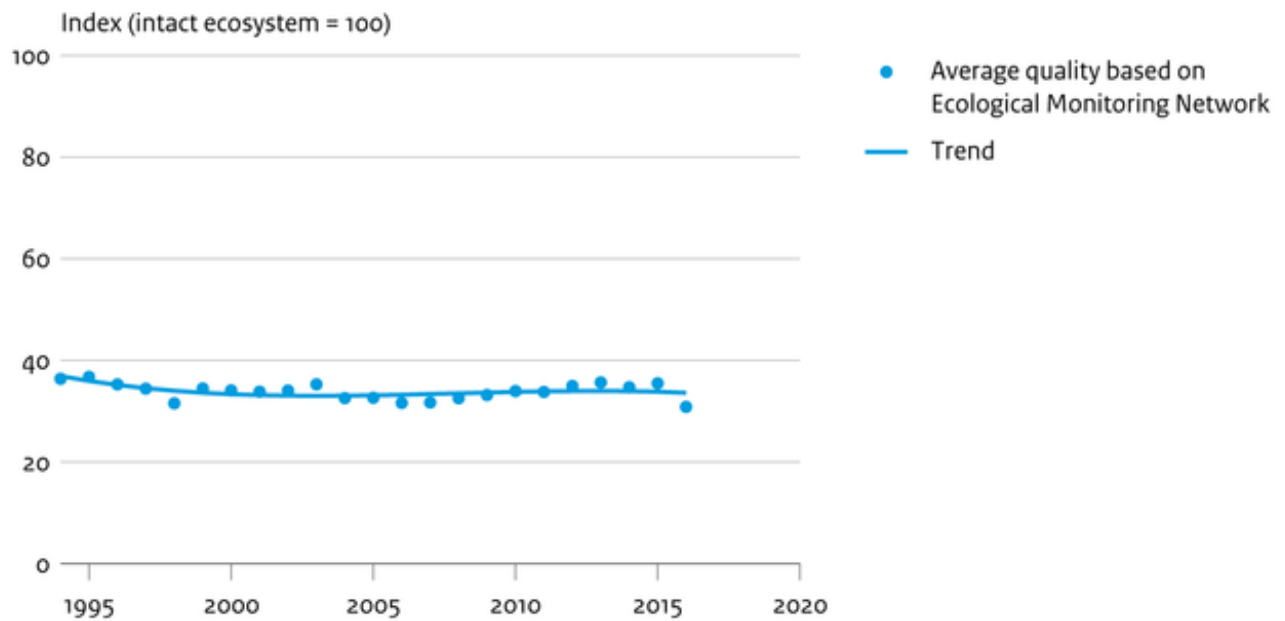
- Measurement
- Trend
- Trend uncertainty

Source: NEM en LMF (SOVON, De Vlinderstichting, provincial councils); adapted by PBL and Wageningen Environmental Research (terrestrial ecosystems); Limnodata, IHW, waterschappen (fresh water)

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## Presence of characteristic forest species

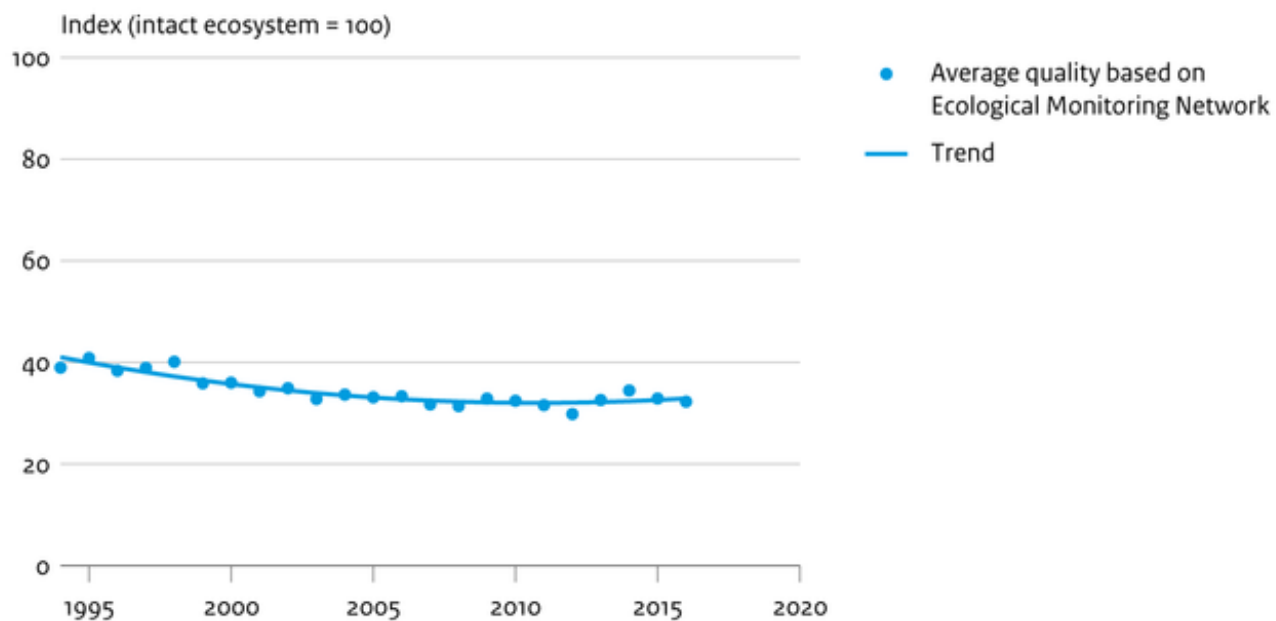


Source: PBL; Wageningen Environmental Research

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## Presence of characteristic heathland species

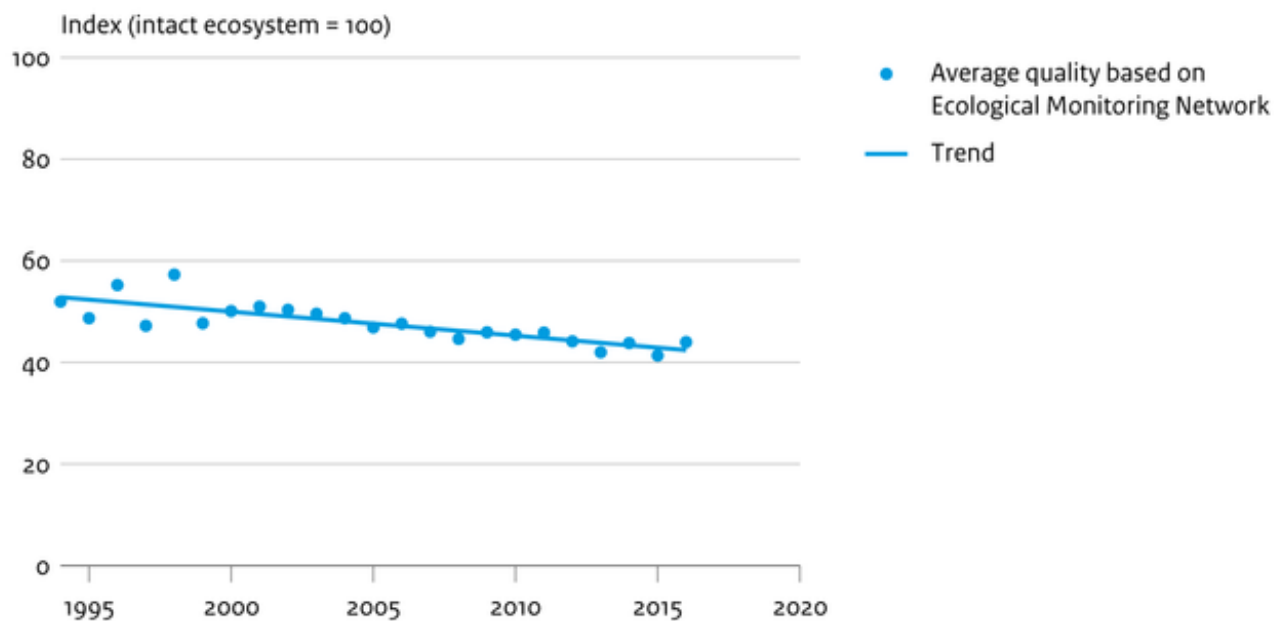


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## Presence of characteristic open dune species

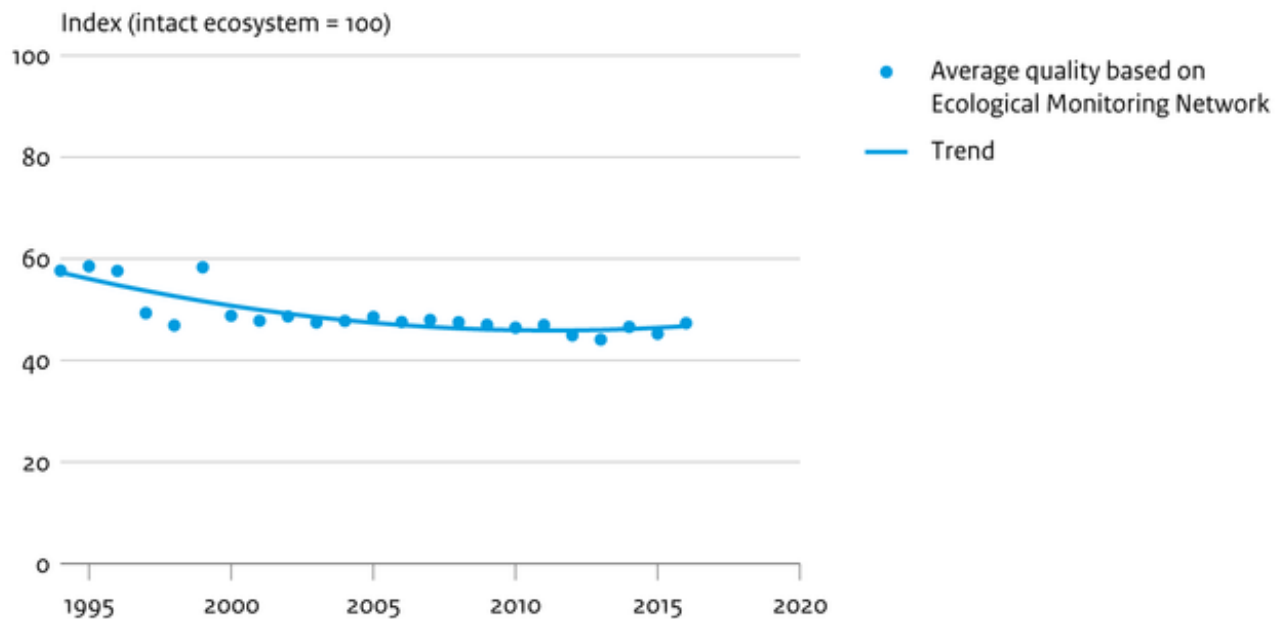


Source: PBL; Wageningen Environmental Research

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## Presence of characteristic marshland species

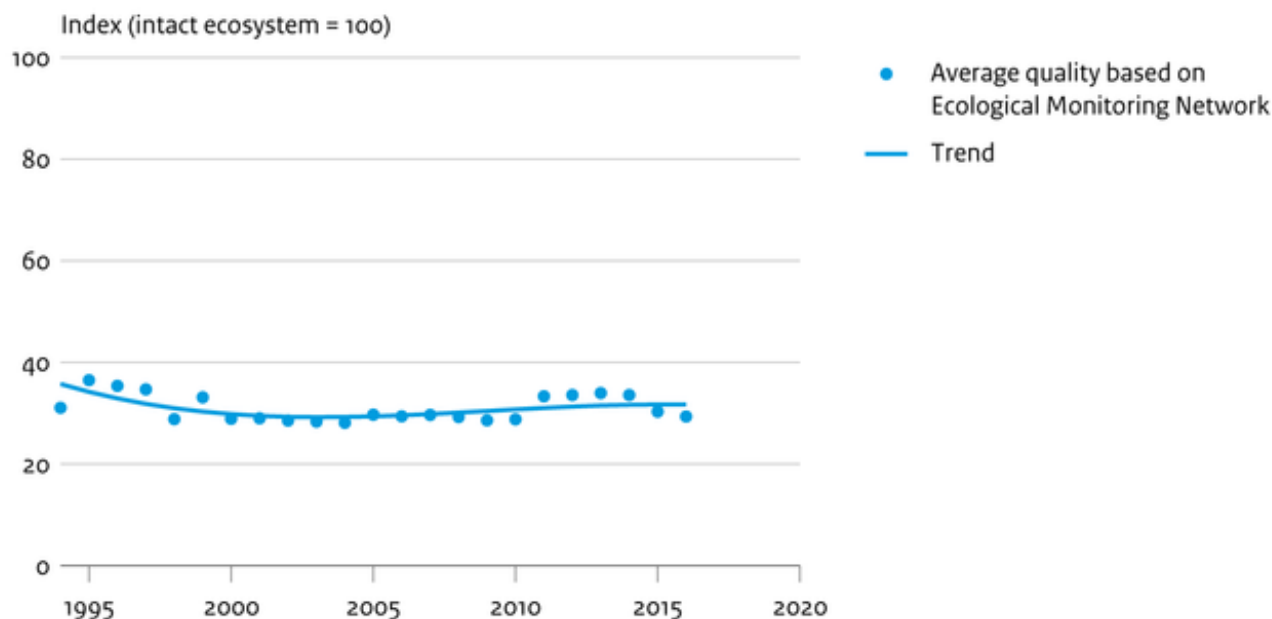


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## Presence of characteristic semi-natural grassland species



Source: PBL; Wageningen Environmental Research

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[/figuurgroep]

## Terrestrial ecosystem quality

Monitoring data for a group of characteristic species and target species per ecosystem indicate that the average quality of terrestrial ecosystems has declined since 1994. Over the last ten years or so the average ecological quality of ecosystems has not decreased, but has not increased significantly either. This picture is consistent with the trend in animal species in terrestrial ecosystems. The trend differs for each type of ecosystem. The decline in the quality of heath and marsh ecosystems has been halted, whereas the quality of open dunes is still declining. The quality of semi-natural grassland and forest ecosystems has on average been stable between 1994 and 2017.

The trend in ecological quality of freshwater ecosystems has on average been more positive than for terrestrial ecosystems. The ecological quality of freshwater ecosystems improved slightly between 1990 and 2016 as measured by the occurrence of macrofauna and water plant species, based on the WFD quality standards (Water Framework Directive). The quality measures based on the occurrence of water plants and macrofauna have both increased, especially in streams and canals. This improvement has not been found in all water ecosystems. There has been hardly any improvement in the occurrence of water plants in ditches, while the occurrence of macrofauna in lakes has decreased.

- [indicator=en1435]

The graph also shows that terrestrial ecosystem quality is lower than it would be in an intact

ecosystem (index = 100%). By 'intact ecosystem' we mean an ecosystem that has not been affected by eutrophication, drying out, fragmentation or other environmental impacts. The average ecosystem quality over all ecosystem types is around 40%.

## Causes of decline in quality

Land reclamation, agricultural intensification and urban development have reduced the area of natural ecosystems. The quality of the remaining natural ecosystems in the Netherlands has declined in recent decades due to the effects of eutrophication, acidification, water table drawdown and drying out of soils, poor water quality and a lack of spatial connectivity. The precise causes of these effects and the strength of the impacts differ according to the type of ecosystem and between regions. Since 1990, the pressures on the environment in terms of emissions and deposition have declined and land use conditions have improved due to habitat creation in the national ecological network (NEN). However, sustainable conditions have not yet been achieved. These suboptimal environmental and land use conditions mean that ecosystem quality is low and is often declining further. The precise causes of this decline vary from one ecosystem type to another.

- [indicator=en1522]

The current ecological quality of freshwater ecosystems is on average low. Among the causes of this are the delayed release of nutrients from the sediment, run-off and leaching of fertilisers from farmland, and the establishment of exotic species. Restoration measures, such as stream restoration and the creation of nature-friendly banks, and reducing eutrophication of surface water can lead to a further improvement in ecological quality based on the occurrence of water plants.

## Policy seeks to improve ecosystem quality

The Netherlands has made international commitments to meeting the goals of the Convention on Biological Diversity, the Birds and Habitats Directives (Natura 2000) and the EU Biodiversity Strategy. In the Nature Pact (Natuurpact) the national and provincial governments have agreed to raise ecological quality through the creation of the national ecological network and by making extra efforts for habitat restoration and management and taking measures to improve water and environmental conditions.

The goal of the Water Framework Directive is to improve the quality of water ecosystems and wetlands. This methodology includes standards for the assessment of biological status, physicochemical status and chemical status (toxic substances). The last group comprises both European priority substances and other relevant pollutants determined for each river basin.

## References

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CBS, PBL, RIVM, WUR (2018). [Trends in ecological quality, 1994-2017](#) [24] (indicator 2052, version 07 , 6 December 2018 ). [www.environmentaldata.nl](http://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.

**Source URL:** <https://www.clo.nl/en/indicators/en205207>

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