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Toestand van de natuur in Vlaanderen

Cijfers voor het beleid

Samenvatting / English summary



*instituut
voor
natuurbehoud*

Nature Report 2003

The State of Nature in Flanders, Belgium

Figures for Policy

* Institute of Nature Conservation: scientific institute of the Flemish Community.

The Institute of Nature Conservation* reports biannually on the state of nature in Flanders. With 40 chapters covering six themes and over 350 pages, the Flemish Nature Report 2003 presents new facts and figures regarding the state of species and habitats, disturbances, the sustainable use of natural resources and the impact of protective measures taken by the government. The report is illustrated with hundreds of figures and tables. The most important conclusions are summarised and discussed in this document.

■ Species

Recovery of fish populations

The number of observations for almost all freshwater fish species increased between 1996 and 2002. As a result, species diversity increased in all larger rivers. Some Habitat Directive species, such as twaite shad (*Alosa fallax*), river lamprey (*Lampetra fluviatilis*) and bitterling (*Rhodeus sericeus*), re-established themselves. The Atlantic salmon (*Salmo salar*) is once again migrating up the river Maas.

Overall, water quality is improving in the larger rivers thanks to water purification. On the other hand, smaller upper courses continue to deteriorate due to diffuse influx of fertilizers. What's more, many migration barriers remain. Benelux has agreed to remove them all by 2010, but this has only been achieved so far in 6 % of cases. Other critical success factors for sustainable fish population restoration are spawning opportunities, the permanence of the improved water quality and water flow diversity.

Loss of amphibians

Survey campaigns on the common toad (*Bufo bufo*), the green frog (*Rana esculenta*), the common frog (*Rana temporaria*), the Alpine newt (*Triturus alpestris*) and the common newt (*Triturus vulgaris*) in 1975-1989 and in 1999-2001 dealt with about 1,600 pools and small ponds, scattered over nine regions. 750 of these were visited during both time periods.

There is a large turnover of populations for all species. Taking all species and regions together, the number of populations decreased with 36 % over the past 15-25 years. All species studied displayed a decreasing trend. This was strongest for the green frog (-41 %) and the common newt (-48 %). The reduction in the case of the common toad is moderate (-15 %) and not significant. The present study revealed a high species turnover in the investigated ponds. The extinction rate is fairly uniform for the five species studied, ranging between 62 % and 70 %. The number of newly colonised populations, on the other hand, was considerably higher for the common toad (53 %) than for the other species (20-30 %).



Loss of water plants

The mean abundance of 11 monitored water plant species in ditches and livestock drinking pools at the Uitkerkse Polder dropped on average from 33 % to 5 % between 1980/81 and 2000. Species like ivy leaf duckweed (*Lemna trisulca*), common hornwort (*Ceratophyllum demersum*) and mare's tail (*Hippuris vulgaris*) have disappeared completely. Six others disappeared at over 80 % of the surveyed sites. These include the very common species lesser duckweed (*Lemna minor*), inflated duckweed (*Lemna gibba*) and soft hornwort (*Ceratophyllum submersum*) which are highly tolerant to environmental pressures such as overfertilisation. In 1980-81, lesser duckweed (*Lemna minor*) was the most abundant plant (89 localities, 68 %), whereas in 2000 it was only found in 14 localities (11 %). The tolerant species horned pondweed (*Zanichellia palustris*) and sago pondweed (*Potamogeton pectinatus*) also declined by 65 % and 63 % respectively. Possible causes for this decline are eutrophication, salinisation and pesticides.

Extinction of butterflies

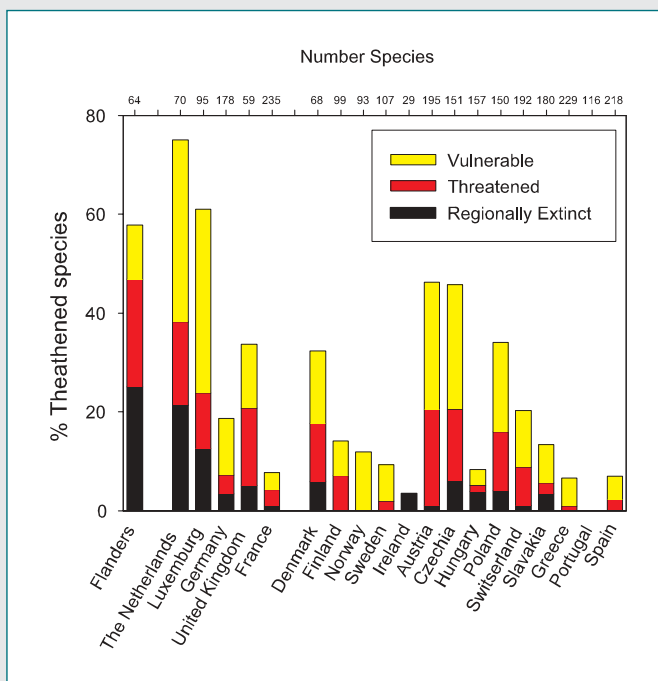


Figure 28: Comparison of butterfly status among different European countries (Source: van Swaay C.A. M. & Warren M. S., 1999).

Butterfly diversity steadily declined in the 20th century, slowly at first, but drastically increasing (no less than eight-fold) in the second half of the century. Butterfly species richness declined by 30 % from 62 in 1900 to 47 species at present. A further 50 % are threatened.

Flanders has the highest number of extinct and threatened species in Europe, followed by the Netherlands and Luxemburg (which have more vulnerable species). Butterfly fauna is less threatened elsewhere in Europe, especially in Northern and Southern Europe, where no extinct species have yet been reported and where the number of threatened species remains low. Factors behind the decline in butterfly diversity include loss of habitats such as species-rich grasslands and open forests.

Biotopes

Many plant and animal species are declining, the principal cause of which is usually the loss of suitable habitat. To better understand the state of plant and animal species it is essential to take a closer look at their biotopes.

Heathlands

Almost 50 % of typical heath plant species are on the Flemish Red List. Heathlands are subject to continuing external pressure in the shape of acidification, eutrophication and groundwater extraction. Many heathland areas are being spontaneously overgrown by trees or grasses.

Grasslands

Grasslands contain the highest number of plant species, both absolutely and on the Red List. The loss of grassland species is chiefly the result of agricultural intensification. The polder grasslands at the eastern side of the Flemish coast have become a major overwintering area for geese. Populations of almost all goose species have increased since the 1970s, due in

part to hunting restrictions. Some 90 % of the pink-footed goose population (*Anser brachyrhynchus*) from Spitsbergen and 2,5-5 % of the Baltic/North Sea population of white-fronted geese (*Anser albifrons*) overwinter regularly, making this an area of international importance. The goose species are especially attracted to the larger areas of historically permanent grassland. Consequently, effective protection of those grasslands is urgently needed. Existing protection is not sufficient.

Sea Scheldt

According to the Wetland Convention (Ramsar, 1971) an area is deemed to be of international importance when at least 20.000 water birds overwinter there regularly or when at least 1 % of the biogeographic population reside there. The Scheldt is of international importance to waterfowl. During the first half of the 1990s, the number of overwintering birds rose to around 40.000, since when it has further increased to 70.000 birds. This is not a result of habitat restoration measures, but reflects instead the improvement in water quality and the dynamics of the populations in Northwest-Europe.

Coast

Several new sand-raised sites were created in 1985 at the outport of Zeebrugge. These were rapidly colonised by pioneer species like the Kentish plover (*Charadrius alexandrinus*) and little tern (*Sterna albifrons*). These were subsequently followed by the black-headed gull (*Larus ridibundus*), herring gull (*Larus argentatus*), lesser black-backed gull (*Larus fuscus*), common tern (*Sterna hirundo*) and Sandwich tern (*Sterna sandvicensis*). Four species exceed the 1 % norm: little tern (3,8 %) common tern (4,4 %), Sandwich tern (3,4 %) and lesser black-backed gull (1,93 %). There are only a few sites in Europe with such large colonies. However, several breeding sites are only temporary and will be reclaimed in the future by the harbour industry. The terns and plovers will have to move at that point to the nearby beach reserve 'Baai van Heist' and to a tern island that was specially constructed in 2001 to offset the loss of breeding grounds in the western part of the outport.

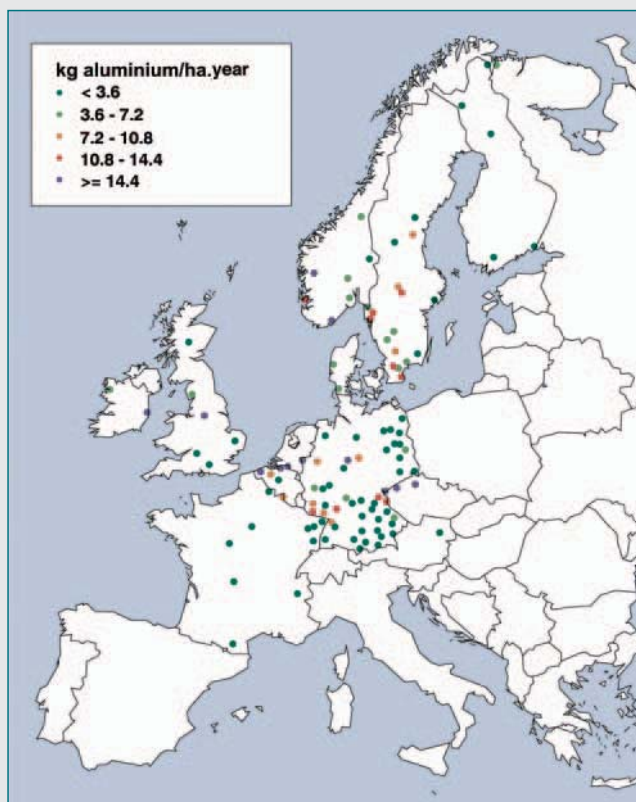
Environmental disturbance

The critical state of nature in Flanders is a result of disturbances like eutrophication, acidification, desiccation, pollution and fragmentation.

Eutrophication

Although average surface water quality is improving, the number of Flemish rivers and streams with continuously high water quality remains extremely low. Atmospheric nitrogen deposition and nitrogen and phosphorus influx through groundwater and surface water are still too high for the preservation of many species. The concentration of plant-available phosphorus continues to rise in the biologically very valuable upper courses of the Nete basin.

Acidification



Figuur 29: Aluminium leaching under European forests (Source: United Nations and European Commission, 2001)



Acid deposition in Flemish forests is higher than the critical load for damage protection for conifers, broad-leaf trees and soils. The critical load is the maximum level of acid deposition that does not cause damage. The highest acid deposition in Europe is found in Belgium, the Netherlands, central Germany and the Czech Republic. Aluminium dissolves in acid soils, which is toxic for vegetation. Aluminium leaching in the sandy soils of the Kempen region is very high compared to other European countries.

Fragmentation

The dense road network intersects many important ecological areas and creates potential barriers for nature. A map has been produced as a first step towards dealing with those barriers, with each area rated according to the type of habitat. The next step was to consider potential solutions. Pressure points were subsequently ordered in a priority atlas, drawing on the earlier data and taking account of the importance of the infrastructure for faunal elements. This theoretical approach is area-specific, aiming primarily to defragment larger units of continuous nature.

■ Sustainable use

Forestry

It is estimated that the total standing wood stock in Flanders amounts to 31.584.000 m³ (about 216 m³/ha). Scots pine (*Pinus sylvestris*) is the single largest component, accounting for 28 %. Poplar (*Populus x canadensis*) is second at 16 %. Forestry policy is encouraging a switch towards indigenous broadleaf forests, and so their proportion will decrease in the future. Conifers still account for the largest share of the age categories 21-40 and 40-60 years, but this is no longer the case for the 0-20 category. The proportion of non-native species amounts to 39 %. The management strategy for public forests aims to reduce that figure to below 20 % in the long term.



River lamprey: a species of the Habitat Directive.

■ Conservation and restoration

Reserves

On 1 January 2003, Flanders had 809 nature and forest reserves with a total surface area of 25.645 ha – 1,89 % of total Flemish land area. Of this total, 23.975 ha are managed as nature reserves and 1.670 ha as forest reserves. Half of the overall area is not yet registered as official reserve. The Flemish government subsidises the management of official nature reserves. The total budget has increased six-fold since 1996 and subsidies are now also being provided to improve the public accessibility of the reserves and for monitoring purposes. The number of Flemish government employees responsible for nature policy also increased during the last decade. Membership of the largest private nature organisation grew strongly in the early 1990s before stabilising around 1998. The organisation currently boasts some 47.000 members and reaches 2 % of Flemish households.

Ecological network

The Flemish government plans to designate 125.000 ha of territory as a 'Flemish ecological network'. This will incorporate reserves in larger natural entities in order to protect species that are threatened. A further 150.000 ha will be designated as a nature-intertwining area and an undetermined number of hectares as a nature-connecting area. The Flemish government, the Institute of Nature Conservation and the Institute of Forestry and Game Management have drawn up a priority map for nature and forest areas for Flanders. In June 2003, 85.000 ha of the 'Flemish ecological network' was approved. However, it is the remaining 30.000 ha that will lead to the creation of the larger natural entities.



■ Flemish international nature policy

Bird and Habitat Directives

The total area designated under the European Bird and Habitat Directives amounts to 163.000 ha or 12 % of Flemish territory. This is less than the European average. The 98.000 ha covered by the Bird Directives harbour 27 species from the Bird Directive Annex, while 102.000 ha covered by the Habitat Directives contain 45 habitats and 22 species from the Habitat Directive list. Those species and habitats are threatened on a European scale.

Flanders has so far failed to adequately conserve its Bird and Habitat Directive areas. Violations (including conversion of grassland to arable fields and the filling

of pools) have been registered at regular intervals. Since the designation of the Bird and Habitat Directive areas in the Zwarte Beek region, the black grouse (*Tetrao tetrix*) and tawny pipit (*Anthus campestris*) have become extinct and the brook lamprey (*Lampetra planeri*) continues to decline. Although the twaite shad (*Alosa fallax*) has returned, the lack of suitable spawning habitats is hampering the establishment of a self-maintaining population.

The changes to the Amendment Decree of 2002 made it possible to implement the 1992 Habitat Directives in Flemish law. The decree is a milestone for nature policy in Flanders and has implications for several laws relating to nature, forest, manure, land use and development, and land consolidation. It creates scope for the active conservation of Bird and Habitat Directive areas.

Conclusion

The Nature Report 2003 reveals a paradox. The effort – both financial and in terms of manpower – being exerted on behalf of nature conservation and development has never been so high. Yet the report is also full of negative indicators: nature is not doing well in Flanders. There are several explanations for this apparent discrepancy. Firstly, efforts are still modest compared to those in neighbouring countries, and so the actual results (e.g. the size of properly protected and well-managed nature reserves) also fall short of the European average. Secondly, nature policy in Flanders remains in its infancy. Several elements of the Nature Decree of 1998 have yet to come into operation. It cannot be expected, however, that the extremely prolonged decline in the region's nature (especially during the last century) can be turned around spectacularly.

The decline of Flemish nature has been partially slowed down, although environmental pressures in this small, densely-populated and highly industrialised and urbanised region are still too high for vulnerable ecosystems. However, there are some encouraging signs. Water quality – particularly in our larger rivers – has improved, thanks to efforts to purify household and industrial wastewater. More fish species can be found and in higher densities. The increase in the populations of several overwintering duck species in the river Scheldt makes it an area of international importance. If we can conserve the historically permanent grasslands of the coastal polders, they could remain internationally important overwintering sites for geese.

Increased efforts in the past decade to conserve and manage nature are promising, but we still have a long and difficult way to go. The initial results of a survey into nature conservation showed that public support and demand for more nature are much higher than many policymakers think. The crucial aspect now is not to undermine this young nature policy but to continue effectively and even to shift up a gear. If so, future Nature Reports will hopefully contain more positive signals.

