

STATEC

Biodiversity in figures

project description – lessons learned – key messages

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“In figures” publication series



The “**In figures**” publication series aims to present the main structuring statistics of a field in visual form (graphics, infographics) accompanied by short analyses.

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Territoire,
environnement
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ÉDITION 2025

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Project description

International context

Kunming-Montreal Global Biodiversity Framework
(adopted 19 December 2022)

Nature Restoration Law
(adopted 17 June 2024)

Amended regulation on European Environmental Economic
Accounts
(adopted 5 November 2024)

National context

Third national plan for nature protection

(adopted 20 January 2023)

*« The Ministry of the Environment, Climate and Biodiversity (MECB), ..., will establish **an inventory including relevant indicators of the natural environment** necessary for communication with stakeholders and the general public.*

*... these indicators will be used to **publish an annual report** by the MECB and STATEC on the "State of Nature" in Luxembourg, which will raise public awareness of the issue of biodiversity loss, the state of ecosystems, and the importance of ecosystem services for our society.»*

Steps of the methodology

- Definition of the **scope** : **state of biodiversity** and **conservation initiatives**
- **Selection** of a list of **potential indicators** based on the literature
- Drafting **simplified metadata sheets** for these indicators
- **Data search** with administrations, research institutes, national museum of natural history, environmental associations
- Verification of the adequacy between data collected and definitions
- **Calculation** of the indicators
- **Selection** of a list of **relevant indicator** for analysis
- Drafting **complete metadata sheets** for these indicators
- **In-depth analysis** of the indicators
- Writing a **technical report**
- Extraction of **key messages**
- Creation of **graphs**
- Writing of the text for the **general public publication**

State of the Nature – list of existing indicators

Chapter 1: Diversity and health of habitats

- Extent of natural and semi-natural spaces
- Phytosanitary status of forests
- Extent of open habitats
- Conservation state of open habitats
- Dead wood in forests
- Ecological quality of water bodies

Chapter 2: Diversity and health of species

- Threatened species
- Threatened bird species
- Grassland and forestland bird index
- Threatened butterfly species
- Grassland butterfly index
- Invasive species

Chapter 3: Conservation initiatives

- Natura 2000 areas
- Protected Areas of National Interest (ZPIN)
- Integral forest reserves
- Compensation zones
- Biodiversity protection expenditures
- Biodiversity protection outputs and jobs
- Biodiversity protection transfers

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Lessons learned

Main lessons

1. The statistical information system on biodiversity monitoring data is still at an early stage
 - data owners are not yet all identified
 - no regular and standardized data exchange for statistical purposes
 - few composite indicators
 - few internationally harmonized calculation methods
 - many information needs are not met due to lack of data (*cf. list of missing indicators*)
2. Field monitoring is the business of highly specialized scientists. Great scientific rigor is sometimes an obstacle to simplified communication to the general public.
3. Data acquisition takes time: 10 years of collection are necessary to establish a robust index
4. The frequency of updates of certain indicators (e.g. red lists, forest census) are very spaced out over time.
5. This field requires processing geospatial statistics which is not an object mastered by all statistical institutes.

List of missing indicators

Chapter 1: Diversity and health of habitats

- Habitat fragmentation
- Area of urban green spaces
- Tree cover of urban ecosystem areas
- Continuity of watercourses
- Organic carbon stock
- Peatland area
- Forest connectivity
- Forest species diversity

Chapter 2: Diversity and health of species

- Wild pollinators
- Amphibians and reptiles
- Mammal occurrence
- Ungulate abundance

Chapter 3: Conservation initiatives

- Area of restored floodplains
- Subsidies harmful to biodiversity
- Tree planting
- Proportion of uneven-aged forests restored
- Area of restored peatlands
- Length of restored watercourse continuity

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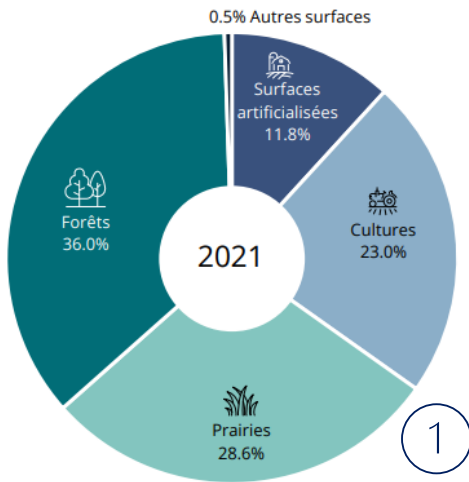
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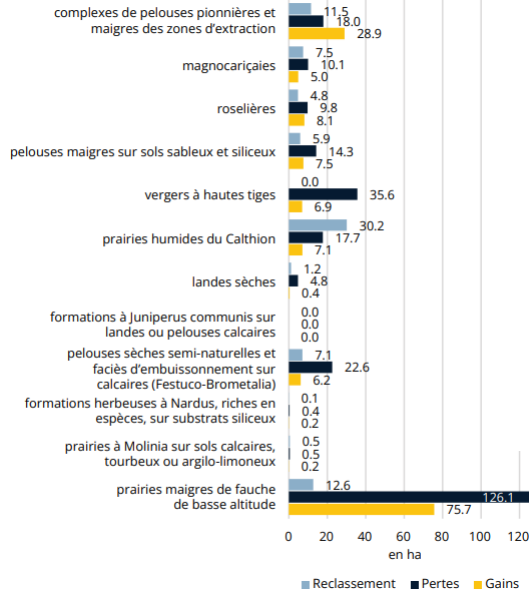
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Key messages

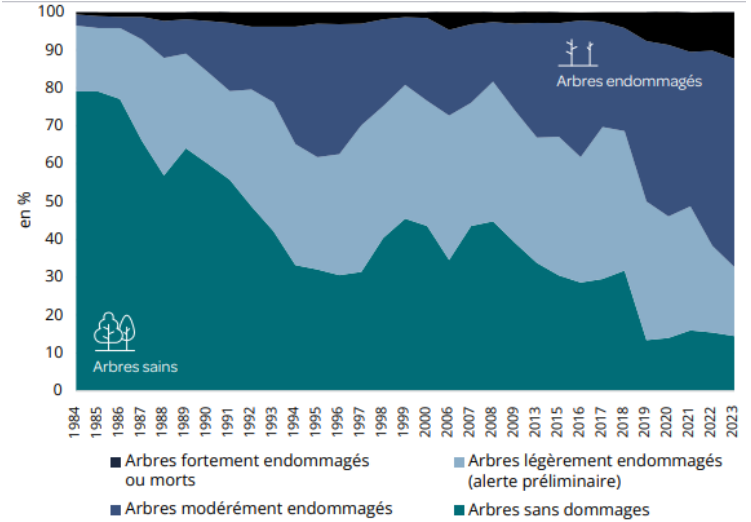
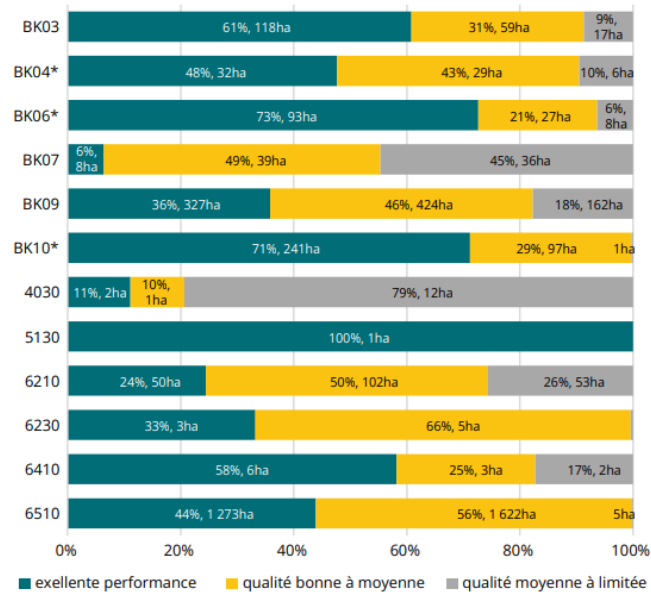
Key messages



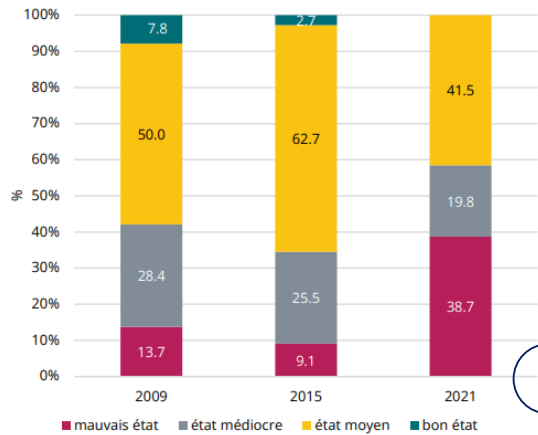
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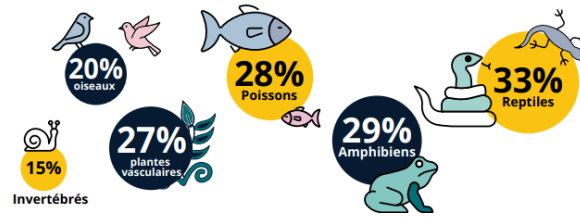
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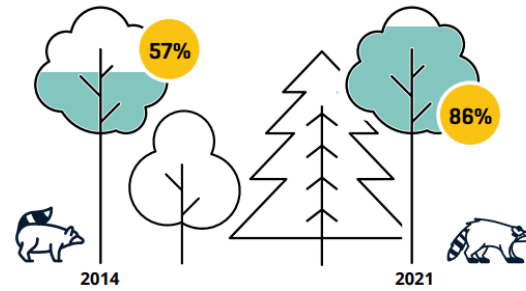
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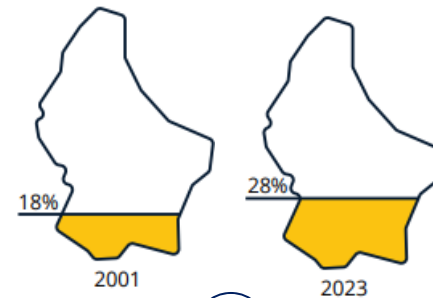
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Key messages

1. In 2021, natural and semi-natural areas were down 3% compared to 1999.

Between 2007 and 2021, there was a net reduction of 17 ha of forests per year to urban areas and a net increase of 19 ha of grasslands per year from crop fields.

2. Not all forests and grasslands are rich in biodiversity.
3. The vast majority of open-environment habitats are shrinking, and their conservation status is highly heterogeneous.
4. In 1984, 79% of trees showed no visible signs of damage. By 2024, this proportion had declined sharply to just 15%.
5. Between 2009 and 2021, the ecological status of surface water bodies deteriorated.
6. Many species are threatened with extinction: 23% of breeding birds, 31% of butterflies
7. Some invasive alien species are on the rise: the raccoon is detected in 86% of the country
8. Natura 2000 zones cover 28% of the territory, ZPINs cover 6% of the country
9. In 2022, national expenditure on biodiversity protection services amounted to 96 millions EUR

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Thank you ! Merci !

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