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Suggestions and Requirements for a National Biodiversity Monitoring in German Forests (NaBioWald)

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Motivation

Forest biodiversity is influenced by environmental factors and their changes such as climate, soil characteristics, or pollutant and nutrient inputs, as well as forest management. The conservation of biodiversity can be justified by its intrinsic value, but also by its importance in providing ecosystem services. In forests, national monitoring programs have been established for decades. Currently, various biodiversity parameters included in monitoring programs do not allow robust conclusions on relevant drivers and their interactions with biodiversity at different levels. A national forest biodiversity monitoring initiative intends to close these gaps.

Working process

A working group consisting of representatives of federal and state departmental institutions in the field of forestry and nature conservation presented propositions on the development of a national biodiversity monitoring in forests. The aim of the monitoring is to collect comprehensive, representative information on biodiversity in Germany's forests, on the factors influencing it ("drivers") and on their modes of action. The interactions of forest management and environmental factors with regard to forest biodiversity are of particular interest. The data and information obtained will provide an important basis for biodiversity-oriented, adaptive forest management, support the forest and nature conservation policies of the federal and state governments, and cover national and international reporting obligations. Interfaces to other monitoring programs outside of forests should enable the connection to surveys across land uses in larger spatial units (landscapes, regions).

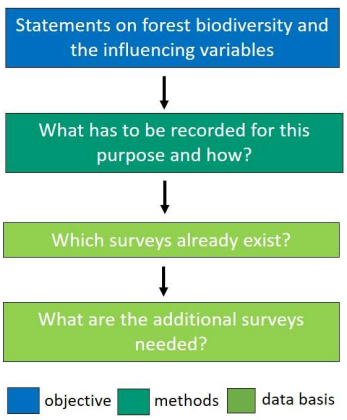

Fig. 1: Approach to the monitoring process. After answering all question levels, a first basic framework of a concept can be created.

After a kick-off workshop with the goal of defining the requirements for a national biodiversity monitoring in forests a paper on the overall objectives was presented *(Bolte et al. 2022)*. Currently, potential elements (biodiversity aspects and major drivers) are prioritized and means of site selections are assessed. A second workshop with stake-holders will be organized next spring with the intend to achieve a common concept.

Requirements for a National Biodiversity Monitoring

Representativeness - The monitoring shall allow statements for Germany and document developments as well as changes

Integrativeness - The monitoring shall complement existing surveys and use their findings

Relevance - The monitoring shall expand and consolidate the knowledge base for policy advice and action control

Affordability - The monitoring shall be financially manageable

Feasibility - The monitoring must be possible in the sense of achievable

Acceptance - The monitoring must have the approval of society, stake-holders, and the scientific community

Propositions for a National Biodiversity Monitoring

1. National biodiversity monitoring in forests provides the basis for biodiversity-oriented adaptive management, for federal and state policies, and for national and international reporting.

2. The monitoring representatively assesses different levels of biodiversity with standardized methods and uses synergies with existing surveys.

3. Monitoring includes forest biodiversity as well as natural and anthropogenic influences ("drivers") of its development. It also defines interfaces to monitoring programs of other land uses.

4. Due to the complexity, the effort, and the large spatial coverage, the task of biodiversity monitoring, and the large area covered by the federal government and the states, it can only be carried out jointly with the participation of other actors. Thus it requires long-term resources and the assignment of clear responsibilities.

Further steps

The complexity and the effort of monitoring biodiversity require a division of work and tasks between many different actors from science, administration, forestry and nature conservation on federal and state level. A concept draft is to be discussed in an extended circle of experts and other stakeholders and finally presented as a final draft to politicians for a decision on implementation.

A. Bolte, C. Ammer, J. Kleinschmit, F. Kroiher, I. Krüger, P. Meyer, B. Michler, S. Müller-Kroehling, T. Sanders & U. Sukopp (2022). Nationales Biodiversitätsmonitoring im Wald. Natur und Landschaft. 97. 398-401. 10.19217/NuL2022-08-04.

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