

Sustainably Bridging a Science-Practice Gap in Forest Management - The FeNEU Project

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Outline

With our contribution, we would like to introduce the concept and the current status of the project FeNEU, a collaboration between the Technical University of Munich (TUM), and the Bavarian State Institute of Forestry (LWF). The core idea of this project is to close a significant knowledge and method transfer gap between forest science and practice in the field of evaluating a broad range of forest inventory data in an innovative and future-oriented way. Importantly, it is intended to support new approaches of planning in forest management. In order to achieve that, the project has both, scientific and technological components. We will present the most important features of both.

The project is supported by the Bavarian Ministry for Nutrition, Agriculture, Forestry and Tourism, and it will become a long-term task at the LWF to maintain and develop the standards it provides in a scientific, methodological, and technical sense. The fundamental collection of objects and methods, the R-package *ForestElementsR* will be freely available on CRAN (<https://cran.r-project.org/>) at the time of the presentation.

What challenges does the contribution address?

The traditional and currently prevalent planning approaches in forestry (“Forsteinrichtung”) are tailored for even aged monospecific forests and focused on sustainable wood production. Increasingly, however, the silvicultural reality is somewhere in a continuum between age class and selection forest (“Plenterwald”), and forests are expected not only to provide wood, but a multitude of ecosystem services and biodiversity.

From a technical perspective, even for classic methods of forest data evaluation there is no contemporary platform that would make these methods broadly available to practitioners.

We address both challenges using our own and other published approaches to extract as much information as possible from data that are actually available in forest practice. In a technical sense, we keep the solution open for traditional as well as for modern concepts and data sources.

How do you assess the innovation potential?

We see a high innovation potential, because the standards and implementations we create will be actually and freely available on the long run. Modern and traditional methods will not be available just in theory, but as widely accessible implementations. The development will continuously keep pace with scientific and technological innovations. Other developers and scientists do not have to bother about defining own standards and their acceptance in practice when they build up on those defined in the FeNEU project.

Which stakeholders are affected?

The main stakeholders we address are managers of public (especially municipal) and private forests, as well as freelance consultants who are usually commissioned to do the forest

planning in municipal and private forests. However, the software and the code will be available to any interested person or organization.

What added value or use should be generated for the conference participants?

The conference participants will be made aware of a development, which will potentially be useful to them and to which they can possibly contribute. At the time of the presentation a first version of the fundamental methods and object collection, *ForestElementsR*, will be publicly available.

What feedback do you expect from the participants?

From participants from practice, we would like to learn about their most pressing problems we could tackle with the ongoing development. From participants from science we would be happy to hear where they see connections of their work to ours; including their existing solutions where a cooperation with us, or building on our standards could facilitate their application in practice.