

# The *Calluna*-heath of the Königsbrücker Heide (FFH habitat type 4030 – European dry heaths) in a European context – a floristic-phytosociological classification

## Abstract

For nature conservation planning of dry heathlands it is important to understand the dynamics of their plant communities in order to better assess their characteristics and development. With the intention to characterize the dry heaths in the Königsbrücker Heide, in this master thesis the vegetation survey of the *Calluna*-heath in the Königsbrücker Heide was compared with the plant communities in other Central European heathlands based on a gradient of continentality.

This was achieved by conducting a literature research which collected vegetation surveys from countries that represent a Central European continentality gradient. These include Great Britain, Belgium, the Netherlands, the Czech Republic and different parts of Germany. To establish the main plant communities this data was fused into a plant sociological table. Furthermore, a Non-metric Multidimensional Scaling (NMDS) was conducted and the surveys carried out in the Königsbrücker Heide over the whole monitoring time span (2000-2012) were compared with each other.

The results show that the plant communities in the sociological table as well as the NMDS form an oceanic and a continental side. Between those two sides, the plant combination of the Königsbrücker Heide forms a community missing any specific indicator species. At the same time, it shows no significant deviation from the continentality gradient. Overall, the results display the climatic influence on a wide area. However, the continentality gradient overlaps with the different historic uses of the heathlands: long-term usage by heath farmers in the oceanic and short-term military usage in the continental region. The plant community in the Königsbrücker Heide shows signs of both usages as well as the middle stage of its development.

All in all, the whole analysis illustrates that the characterization of the heathland vegetation cannot exclusively rely on the interpretation of continentality. The results highlight the need to use structural aspects and abiotic factors for significant analyses and comparisons of heathlands. The knowledge gained by monitoring the natural succession in the heath of the Königsbrücker Heide form the basis for further comparative studies of Central European heathlands and have the potential to be used as reference for the recultivation of mined areas.