

**THE COMPARISON OF TWO METHODS OF MONITORING WETLAND
VEGETATION DYNAMICS. CASE STUDY: CENTRAL EUROPEAN FEN**

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This contribution deals with the monitoring of vegetation dynamics within mires and presents the comparison of two different methods usually used for monitoring vegetation changes – (i) repeating vegetation sampling and (ii) comparing vegetation maps using GIS. The temporal change of wetland vegetation (composition and spatial distribution) is closely connected with water regime and water quality change. We have chosen one of the biggest minerotrophic fens in the Czech Republic (Nature reserve Ruda, a part of the UNESCO biosphere reserve) affected by peat mining to study the vegetation change.

In 1985, nearly 70 phytosociological relevés were collected in the study area, they were very well localised in map, so they could be re-sampled in 2004. Changes in vegetation were revealed with ordinations (DCA, CCA). The decreasing of abundance of many species characteristic for wettest parts of moderately rich fens and initials successional states of fen development was found out. As the most affected species we can list here *Carex dioica*, *Liparis loeselii*, *Utricularia intermedia*, *Sphagnum obtusum* and *Drepanocladus vernicosus*. On the other hand, the largest expansion of *Calamagrostis canescens*, *Carex lasiocarpa*, and shrubs with *Frangula alnus*, *Salix cinerea*, *S. aurita* and *Betula pendula* was recorded.

The second method is based on comparison of two vegetation maps from the years 1985 and 2004. Vegetation types were defined on the basis of their species composition and abundance pattern in 1985 and were supervised with the same methodology in 2004. The relative cover of the vegetation types was compared in these two periods. We have detected the biggest decrease in land cover of open water bodies and the biggest increase in shrub vegetation such as mire willow scrub and those with *Betula pendula* in tree layer.

The results of both methods show successional changes to more dense vegetation types. The difference between these two methods is in scale. The first method gives more detailed information about species composition, but it can miss changes in spatial composition of vegetation. In this case the second method is useful.