

This paper forms part of the proceedings from the BOU conference **Ecosystem services: do we need birds?**
Other papers from these proceedings can be viewed at www.BOUPROC.net.

POSTER ABSTRACT

Evaluation of a general ecosystem state indicator based on farmland birds

G. G. NAGY¹ & B. CZÚCZ²

¹Corvinus University of Budapest, Faculty of Landscape Architecture, Department of Landscape Planning
and Regional Development, Hungary

²Hungarian Academy of Sciences, Institute of Ecology and Botany, Hungary

* Email: nergog@uni-corvinus.hu

Different qualitative and quantitative indicators can be used to trace the state of ecosystems in a landscape. Most of these “biodiversity indicators” are developed for rural landscapes, capturing particular aspect of landscape. Fine resolution indicators of general ecological status are particularly useful in a broad variety of local and regional policy contexts. In this study, we examine such a promising indicator, the vegetation-based natural capital index (NCI) of Hungary, with the help of bird data.

NCI gives a percentage estimation of the proportion of the original ecosystems that have persisted in a particular region. In this study, we evaluate vegetation-based NCI with respect to farmland bird assemblages in the case of three similar lowland regions in Hungary. The survey of the bird population was carried out between 15 April and 10 June 2011 by modified Danish point counting system. The sample areas were the geographical micro-regions Csepeli-sík, Hortobágy and Nagyberek, which are landscapes dominated by agricultural lands and grasslands. Our hypothesis was that higher NCI values correspond to higher bird diversity and abundance values, which also imply a higher supply of regulating and supporting ecosystem services.

We found that bird assemblages and NCI gave a similar picture about the general ecological status of the studied landscapes, even though the relationship between NCI and the characteristics of the bird assemblages were not always strictly linear. While the plant-evaluation assesses the Csepeli-sík roughly halfway between the two other landscapes, the bird-evaluation sets it much closer to Hortobágy which has higher points than Nagyberek, presumably because of its more mosaic landscape structure. The differences are supposed to lie in the way birds and plants observe and inhabit the landscape. Nevertheless, a detailed understanding of the characteristics of these indicators would demand further studies.