

Assesment of land use influence on landscape naturalness

Abstract

Human activities are putting an increasing pressure on natural areas. Complex understanding and evaluation of human impact on the environment is considered to be a key tool to preserve natural balance. Biodiversity was chosen as proxy for naturalness as it has been recognized as one of the main components of environmental stability.

Several different indices has been developed to assess human-induced changes in biodiversity. In this study, mean abundance of original species relative to their abundance in undisturbed ecosystems (MSA) is used as an indicator for current state of naturalness. Indicator MSA is built on simple cause–effect relationships between environmental drivers and biodiversity impacts, based on state-of-the-art knowledge. Drivers considered are landcover change, land-use intensity, fragmentation and infrastructure development.

As most of biodiversity indices, MSA illustrate prevailingly poor condition of nature as a result of human induced pressures, especially land cover change. Considering constantly increasing population and economic development human pressure grow is likely to continue during the coming decades with irreversible loss in the diversity of life on the Earth.

Keywords: Mean species abundance (MSA) – land use – biodiversity