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Usage of information analysis for the investigation of birds' spatial distribution and the assessment of oak-forest state

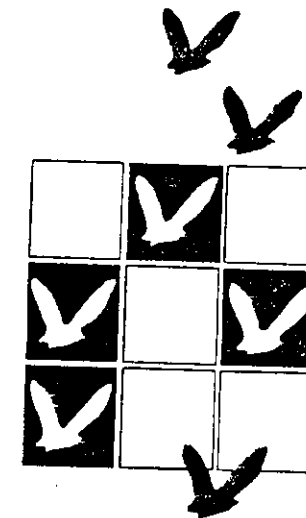
Coal industry impact influences ecosystems primarily at the community level. Drying trees and subsequent changes of biodiversity influence the distribution of birds. We compared the impact in non-damaged forests along the Samara river and damaged forests in Western Dombass (Ukraine). We test spatial distribution of birds according to Bivalovich's biogeographical horizons. In undamaged stands the lowest rate of photosynthesis (factor 0.1269) has the greatest influence. The smallest influence is played by the lowest horizon-surface one (0.0201). The coefficient of informational junction (K) is 0.1359. In damaged oak forests the lowest horizon of photosynthesis has no influence on bird distribution and transmits wrong information (-0.00175) to a distribution as a phenomenon. The surface horizon is mostly informative (0.0681) and the upper photosynthesis horizon is the less informative (K=0.0776). Hence, in damaged forests the informational junction decreases about two times. Thus, the spatial distribution of birds in oak communities of damaged forests is not dependent on the vertical spatial structure of oak trees.

Programme and Abstracts

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