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Indicators of biodiversity in agroecosystems: insights from Article 17 of the Habitats Directive and IUCN Red List of Threatened Species

Dario Masante, Carlo Rega, Andrew Cottam,
Grégoire Dubois, Maria Luisa Paracchini

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Contact information

Maria Luisa Paracchini

Address: Joint Research Centre, Via E. Fermi 2749, TP 266, I-21027 Ispra (VA), Italy

E-mail: luisa.paracchini@jrc.ec.europa.eu

Tel.: +39 0332 78 9897

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Abstract

In the current decade, the main goals for biodiversity conservation and environmental protection at the level of the European Union are set in the EU Biodiversity Strategy to 2020: halting biodiversity loss and restoring ecosystem services. A key requirement for the implementation of the Strategy in terms of targeting measures and funds, and monitoring trends is the construction of a biodiversity knowledge base, including spatially explicit information on biodiversity distribution and ecosystem condition. The work presented in this report is based on the analysis of two primary datasets on biodiversity and habitat status. The first one is the Habitats assessment carried out by EU Member States under Art.17 of the Habitats and Birds Directive. Information reported by Member States is analysed to derive the links between pressures and conservation status, showing that agriculture-related habitats have, on average, a worse conservation status when compared to other habitats. Consequently, threats and pressures having most influenced the status of the agricultural-related habitats can be identified. The second one is the global dataset on species threat status elaborated by The International Union for Conservation of Nature (IUCN). Spatially explicit representations of species distribution, status and richness across the EU 28 are provided, and most importantly the identification of wide geographic variables linked to ecological theory is presented, that explain to a large extent the continental trend in species richness. Finally, an example is presented of how the two exploited datasets can be jointly used by cross-tabulating data on habitats assessments and species threat status in a spatially explicit way at 10 km resolution, aiming at identifying hotspots where policy intervention is needed.