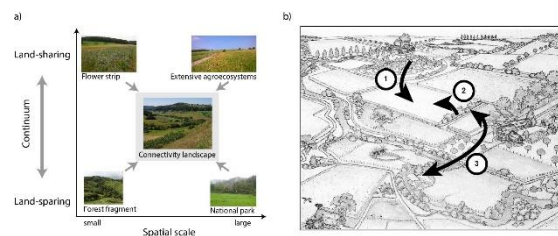


*Why we need diversified landscapes for people, food and nature*

Ingo Grass, Jacqueline Loos, Svenja Baensch, Péter Batáry, Felipe Librán-Embid, Anoush Ficiciyan, Felix Klaus, Maraja Riechers, Julia Rosa, Julia Tiede, Kristy Udy, Catrin Westphal, Annemarie Wurz, Teja Tschardt

How can we conserve biodiversity and the last remains of wilderness on our planet and still feed a world population that is expected to reach 10 billion by 2050? Conservationists, agricultural practitioners and ecologists have long debated what landscapes that support both high biodiversity and food production should look like. One standpoint is that agricultural production on land where cultivation is already taking place should be intensified as much as possible, which may spare the last remains of wilderness, particularly in the tropics, from further agricultural expansion. Others have argued that biodiversity and agriculture are closely intertwined, and that particularly in landscapes with a long tradition of extensive agricultural management, e.g. in Europe, conservation and agricultural production should take place within 'shared' wildlife-friendly farming systems. In this study, we focused in on this debate and concluded that these two points of view are not mutually exclusive. Rather, we found that, to ensure their ecological and agricultural sustainability, future landscapes need to include both land-sparing (high-yielding production areas and pristine habitats) and land-sharing (wildlife-friendly farming systems) elements. This is because each of the two approaches has its own merits, such as conservation of species that are incompatible with agriculture, and enhanced movement of beneficial animals from habitat patches in the surrounding landscape to crops that depend on them for pollination or biological pest control, thereby reducing yield fluctuations. We reviewed recent studies on how to design such landscapes and how certain habitat elements such as hedgerows, or other kinds of corridors and stepping-stones, ensure high landscape connectivity for organisms to move between spared and shared pieces of land. We concluded that diversified landscapes built from these elements would not only help in reconciling biodiversity conservation with agricultural production,

but would also provide a broad range of non-production benefits. In particular, because people relate to the landscapes in which they are living, the future landscapes as outlined in our study should also contribute to the many intangible benefits that people derive from them, such as a sense of place, room for recreation and inspiration, and cultural identity.



*Illustration of approaches to 'sharing' land between biodiversity conservation and agricultural production and 'sparing' unmanaged, natural land from high-yielding agriculture. a) Their combination in land-sharing/-sparing connectivity landscapes promotes both biodiversity conservation and sustainable agricultural production. b) High connectivity across the agricultural landscape matrix is needed to allow movement of species between (spared) natural habitats, (shared) crop boundaries, and extensively and intensively managed agroecosystems.*

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