During the last decades, there have been parallel scientific debates regarding the effects of land use on the trade-off between biodiversity conservation and provisioning ecosystem services (ESS). As society strives to achieve food and energy security alongside biodiversity conservation goals, these debates assume global significance. Yet, to date, they have failed to produce a robust and generally applicable framework on how this trade-off can be described outside a set of confined conditions. Moreover, these approaches have often adopted a dichotomous perspective (e.g., land sharing vs. sparing), thereby falling short of yielding results that can be used for environmental management. The use of land has so many facets and dimensions that when trying to answer the question "What are the best strategies to maximize provisioning ESS at the least harm to biodiversity?" we have to move away from an either-or perspective, as this overly simplifies a complex problem.

In this project, we first seek a conceptual synthesis that acknowledges the multidimensional complexity captured in the label ‘land use’ in relation to biodiversity and ESS. Secondly, we seek synthesis of data from studies on biodiversity and/or provisioning ESS that explicitly report on land use conditions. Although studies that addressed the various facets and dimensions of land use are relatively limited, their combination will provide a more comprehensive overall picture and will allow for quantifying the effects of land use on the trade-off between biodiversity and provisioning ESS. Finally, results will be compiled to inform land use practice and policy such as IPBES.

**Participants:**
Michael Beckmann, Helmholtz Centre for Environmental Research - UFZ
Silvia Ceaus, iDiv
Katharina Gerstner, Helmholtz Centre for Environmental Research - UFZ
Jessica Gurevitch, Stony Brook University
Stephan Kambach, Helmholtz Centre for Environmental Research - UFZ
Stefan Klotz, Helmholtz Centre for Environmental Research - UFZ
Chase Mendenhall, Stanford University
Tim Newbold, University College London
Helen Phillips, Natural History Museum, London