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# When landscape ecology supports ecosystem services bundles' spatialisation

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## Abstract

Regional nature parks are key elements of the French landscape management policy, considered as nature sized laboratories with an integrated management of nature and society. In this research we hypothesize that these territories are functional landscapes composed of different socio-ecological units coupling on a most accurate manner social and ecological information and depicting in a specific way the park identity. Thus we used two different methods in this work:

-a landscape ecology method allowing to define the socio-ecological systems functions and dynamics by coupling social and ecological data sets.

-a participatory approach involving stakeholders and taking into account local knowledge allowing to map the potential ecosystem services in the park area.

The main results are firstly the realization of a map with socio-ecological units synthesizing the relationship between the spatial organization of habitats, society and ecological mechanisms that are underlying the dynamic of biodiversity and ecosystem functioning. Secondly the evaluation of the interaction between societies and nature represented by the potential ecosystem services gathered in different specific bundles characteristic of the different socio-ecological units of the park's landscape patchwork.

The global challenge of this work was to develop an integrative assessment framework to evaluate a wide range of ecosystem services at a socio-ecological spatial scales. As so far we have made the ecosystem services approach spatially explicit and combined successfully empirical data with spatial information available at the park level.

Furthermore this innovative approach has contribute to enlarge the field of assessing and visualizing ecosystem services and enable the development of a decision support tool for the parks.

**Keywords:** socio ecological system, territories, ecosystem services

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