

Approaches integrating ecosystem services and disservices in social-ecological landscapes to foster sustainability

Symposium organisers

Julien Blanco (UMR SENS), *Pierre-Cyril Renaud* (Nelson Mandela University / University of Angers), *Juliette Mariel* (CIRAD)

Summary

Ecosystem services and disservices (ES/EDS; ecological features that benefit or harm human well-being) have gained momentum in landscape ecology research. In particular, EDS have recently been advocated as complementary to ES to explore tensions and conflicts around natural resource management in multiuse landscapes and find new sustainable pathways. This symposium will focus on recent research that combines ES and EDS, discussing the potential and limitations of this dual approach to unpacking the social-ecological interactions that drive landscapes in order to improve their sustainability.

Description

Multiuse or multifunctional landscapes are complex social-ecological systems where different species, habitats and diverse stakeholders with different views and objectives interact. Reconciling natural resource preservation and socio-economic development in these contexts is a critical challenge that requires a robust understanding of multilevel social and ecological interactions, fair and inclusive learning and governance processes, and active dialogue between stakeholders. The concept of ecosystem services (ES), defined as the ecological features that contribute to human well-being, has been pivotal in fostering this transdisciplinary enterprise. Landscape ecology, with its capacity to take into account different organisational levels, ecosystems and stakeholders, is a promising discipline for integrated ES research that can guide sustainability policies. However, concern has arisen about the capacity of ES to capture the adverse impact of certain ecological processes on humans (e.g. animal attacks on people or crop predation) and thus to address tensions and conflicts among stakeholders. This has led to the emergence of the 'ecosystem disservices' concept (EDS), defined as the ecological features that negatively impact human well-being, and for calls to employ integrated ES and EDS analyses in multifunctional landscapes. Such an integrated approach is advocated as a pathway towards a better understanding of socio-ecological dynamics and more just and sustainable landscape management and governance.

This symposium will discuss the question: What have landscape ecologists and other sustainability scientists learned so far in combining ES and EDS in their research? It will include conceptual and methodological contributions as well as case studies, to offer an interdisciplinary understanding of the potential and limitations of the ES/EDS concepts through different perspectives. There will be a particular focus on four key questions:

1. How can a dual ES/EDS approach contribute to uncovering the many biophysical processes and interactions that shape landscapes at different organisational levels?
2. How relevant are these concepts in revealing the subjective dimension of landscapes and in managing tensions and conflicts between stakeholders?
3. What strategies and practices are implemented by stakeholders at different levels to manage ES/EDS trade-offs?
4. How useful is an ES/EDS approach in analysing landscape governance processes, fostering dialogue and social learning between stakeholders, and ultimately guiding decisions and policy-making that promote sustainability?

In addressing these questions, this symposium aims to provide a discussion platform for the research community working with EDS, bringing different disciplines together to clarify the concept, whose continuing conceptual fuzziness hinders its operationalisation for landscape research and management.