



Monday 8th April 2019 at 3 p.m. at the IERMB (MRA Building 2nd floor, Autonomous University of Barcelona, Bellaterra)

“Reconceptualization of Carrying Capacity Based on Landscape Ecology: Paradigm shifts and new approaches”

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With the rising awareness and concern for environmental degradations and the need to understand how to maintain sustainable development under carrying capacity, it is more important than ever to develop theories and methodologies for understanding carrying capacity through natural and human processes as complex dynamic systems (Shi et al, 2016). Nowadays, landscape ecology is an interdisciplinary, integrative science, which is geared toward the holistic survey of landscape areas of various dimensions as towards certain problems in the landscape (Naveh, 2013). Landscape ecology has great potential to addressing urgent challenges facing society (Fu, 2013) and offers the capability to study and understand the scaling functions and the importance of pattern in maintaining a wide range of landscape services; so landscape ecology would be positioned as the scientific basis for carrying capacity.

To understand change mechanism in landscape, researchers must consider related issues such as the features and dynamic changes of landscape structure and function. The use of our world and its natural resources is based on a comprehensive consideration of all ecological, social and economic functions and without compromising the potential to deliver goods and services to future generations (Linehan and Gross, 1998). If we consider these principles to be valid for landscape development, then decisions on changes in landscapes have to be taken after consideration of economic, social and ecological functions and values (Termorshuizen and Opdam, 2009).

Therefore carrying capacity in integration to landscape ecology would consider the degree that a landscape can be changed without impairing or losing important functions or services. Accordingly, this research first reconstructs and assesses current concepts of the carrying capacity. Thereafter, it would propose a framework for transforming ecological carrying capacity to landscape carrying capacity in order to improve performance by integrating landscape ecology principals and carrying capacity. This would be possible through system dynamics to achieve social ecological interactions in a landscape carrying capacity.

