



LUND UNIVERSITY

Faculty of Science

Centre for Environmental and Climate Research

PhD course (2 ECTS credits)

Ecological-Economic modeling – an introduction

Course description

Both ecologists and economists use models to develop strategies for biodiversity management. However, the practical use of single discipline models can be limited because ecological models tend to ignore the socioeconomic dimension of biodiversity management, and economic models the ecological dimension. Given these shortcomings, there is a necessity to integrate ecological and economic knowledge in ecological-economic models. The overriding aim of this course is to increase the student's capacity to participate in interdisciplinary research that is relevant to solving conservation problems. In this respect ecological-economic modeling will be introduced as a tool for facilitating interdisciplinary research. At the end of the course the student will understand the objectives and limitations of the approach, the basic ingredients of an ecological-economic model needed for conservation policy evaluation and obtain insights into how the approach can be related to the students own research. Initially an introduction to economic theory will be provided as a basis for understanding the motives and principles of economic analysis. Secondly, the student will learn how economists approach the task of evaluating and selecting between different conservation policy instruments. Thirdly, the benefits and pitfalls of integrating ecological and economic knowledge will be explored, and examples of ecological-economic modeling will be provided. The lectures will round off with reflections about how ecological-economic modeling might be relevant for the student's own area of research. Finally, the course will conclude with a day of seminars where the students present and discuss with each other their own critical reviews of a published ecological-economic model.

Schedule

Monday, 9th May

- 9-12 Introduction to economics.
- 13-16 Basic economic analysis of conservation policy instruments.

Tuesday, 10th May

- 9-12 Benefits and pitfalls of integrating ecological and economic knowledge.
Examples of ecological-economic modeling (I)
- 13-16 Examples of ecological-economic modeling (II).
Reflections about how ecological-economic modeling can be related to the PhD-students own research.

Monday, 23rd May

- 9-16 Seminar/workshop

Venue

Ecology Building, Sölvegatan 37, 223 62 Lund

Literature

For a preliminary overview of the subject matter read: Wätzold, F., M. Drechsler, et al. (2006). "Ecological-Economic Modeling for Biodiversity Management: Potential, Pitfalls, and Prospects." *Conservation Biology* **20**(4): 1034-1041.

The remaining literature will be sent to participants prior to course start.

Examination

The student is required to attend all moments of the course. Each student will be allocated a scientific article that applies ecological-economic modeling to a conservation problem. The student is required to critically review the article and write a short review (approx. 1,000 words) that summarizes the strengths and weaknesses of the model for analyzing the posed research questions, and describe if and how they could apply/develop the approach within their own research. The essay is to be sent electronically to Mark Brady before the seminar/workshop. Finally the student will present their review to fellow course participants in seminar form on the final day of the course (a PC and Powerpoint projector will be available). Each student will be allotted 30 minutes with 20 minutes for their presentation and 10 minutes general discussion about the presented model.

Enrolment

To enrol for the course send an e-mail to mark.brady@slu.se stating your contact details and 3-4 sentences describing your PhD project/research. Priority will be given to SAPES PhD students.

Instructors

Prof. Frank Wätzold,

Professor of Environmental Economics

Brandenburg Technical University of Cottbus

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<http://www.ufz.de/index.php?en=1671>

Dr Mark Brady (*Course coordinator for inquiries*)
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