

## Keywords

Portugal, CENSE-UNFL, WP7, Impact evaluation, Scenario analysis, Modelling, Biodiversity and ecosystem impact, Ecosystem service values, Goals, Ecosystem service needs, Implementation process, AEM, Protected areas

## Main research question

Is it possible to improve the cost-effectiveness of agro-environmental measures (AEM) within protected areas through the application of spatial targeting tools like Marxan with Zones?

## Research finding in brief

Planning policy-scapes to achieve conservation objectives in a cost-effective way requires an interdisciplinary approach. Spatial targeting tools, like Marxan with Zones, can be useful to promote the integration of ecological indicators and opportunity costs maps for targeting AEM, identifying potential cost-effective solutions. The Portuguese case study in a montado ecosystem area illustrated the application of this tool and confirmed its contribution to improve the targeting of AEM in a cost-effective way. The implementation of a particular AEM should be developed in conjunction with other measures, to mutually increase cost-effectiveness.



## Policymix approach

The approach adopted in this study relied on: 1) a spatially explicit mathematical programming model, which had as underlying basis an opportunity cost map considering the implementation of a specific AEM in the study area; 2) the spatial distribution of key conservation features, that include both species and habitat type; and 3) the establishment of different scenarios of achievement of conservation targets. The overall aim would be to maintain a (spatially) coherent multifunctional landscape. The degree of clumping (size of coherent areas) was also analysed, based on both ecological and economic knowledge.

### Reference:

[Pinto, R., Antunes, P., Santos, R., Blumentrath, S., Clemente, P. Evaluating spatial targeting and planning effectiveness of policies: Illustrative example of an agri-environmental measure application in a multifunctional system. \(in preparation\)](#)

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## ASSESSING THE ROLE OF ECONOMIC INSTRUMENTS IN POLICYMIXES FOR BIODIVERSITY CONSERVATION AND ECOSYSTEM SERVICES PROVISION



### Project objectives

POLICYMIX has developed an integrated evaluation framework for assessing economic instruments that considers multiple policy assessment criteria – biodiversity and ecosystem service provision indicators; valuation of their economic benefit and policy implementation costs; social and distributional impacts; and legal and institutional constraints – at different levels of government.



### Methodology

POLICYMIX focuses on the role of economic instruments for biodiversity conservation and ecosystem services provided by forest ecosystems. The cost-effectiveness and benefits of a range of economic versus regulatory instruments are being evaluated in selected POLICYMIX case studies in Norway, Finland, Germany, Portugal, Brazil and Costa Rica. Comparative analysis evaluates the possibilities for transfer of policy success stories between Europe and Latin America, and promoting learning from policy failures.



### Training and dissemination

POLICYMIX actively used advisory boards including land users, local managers and national policy-makers, who collaborated with our researchers in the feasibility assessments of economic instruments. A web-based [POLICYMIX TOOL](#) encompassing policy impact assessment guidelines, case stories and demonstrations of policy assessment methods is aimed at supporting dissemination and learning.



### Results

POLICYMIX research discusses improvements in the design, targeting and implementation of economic instruments for biodiversity conservation through better understanding of (i) the linkages and complementarities between impact assessment tools, (ii) complementarities between different policy instruments in a policy mix, and (iii) trade-offs in design of a policy mix between economic, environmental and social impact criteria.

### EC Contribution:

3 458 312 €

### Duration:

2010-2014

### Consortium:

9 partners from 8 countries

### Project Coordinator:

Norwegian Institute for Nature Research (NINA) (Norway)

### Project Web Site:

<http://policymix.nina.no>

### Key Words:

Biodiversity, ecosystem services, policy mix, social ecological systems, economic instruments, payments for environmental services, ecological fiscal transfers

### Partners:

- Norwegian Institute for Nature Research (NINA), Norway
- Helmholtz Centre for Environmental Research (UFZ), Germany
- Foundation of the Faculty of Sciences and Technology, New University of Lisbon (FFCT-UNL CENSE), Portugal
- Institute for Environmental Studies, Vrije Universiteit Amsterdam (IVM), Netherlands
- International Institute for Environment and Development (IIED), UK
- Finnish Environment Institute (SYKE), Finland
- Rede de Desenvolvimento, Ensino e Sociedade (REDES), Brazil
- Fundação de Apoio a Pesquisa Agrícola (FUNDAG), Brazil
- Tropical Agricultural Research and Higher Education Center (CATIE), Costa Rica

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