

Knowledge, communication and targeting of biodiversity conservation

Short description: Voluntary biodiversity conservation actions in Finland are currently implemented at the individual parcel scale, which restricts forming of ecologically optimal conservation area networks. Our conservation prioritization analyses aimed at demonstrating whether biodiversity can be preserved more effectively, if considered at a larger spatial scale together with ecological and social data. We aimed at identifying those areas that are both ecologically valuable and are owned by landowners with a positive attitude towards conservation. This approach ensures that conservation funds are allocated in the most effective way in the implementation of conservation. Regional authorities and forest professionals save time when positive landowners are identified in advance.

Area: Southwest Finland, 430 km²

Data: Data consisted of ecological data and a landowner survey. The forest data were based on the multi-source national forest inventory of Finland (MS-NFI). The traditional wooded rural biotope data were drawn from the Finnish National Survey. The landowner survey was sent by mail to all private landowners in the analysis area. We investigated what kinds of perceptions landowners had towards voluntary conservation. We transferred these perceptions into cartographical form by retrieving coordinates for the land parcels of different landowners from the national land register.

Focus: We investigated whether the ecologically optimal prioritization solution would be compromised when landowner perceptions were integrated into the analysis. The cost layer of the Zonation software was used as a technical solution to implement this. In addition, we analyzed how much ecologically valuable areas become lost when negative landowners' areas are omitted from the prioritization. The solution load feature of Zonation was used where negative landowners were omitted from the analysis with an Analysis Area Mask feature.

Use: Regional authorities do not presently have the possibility to acquire landowner perceptions without personal contact. The landowner survey was found to be very resource intensive way to gather this information. In the future when digital services improve, it could be possible for the landowner to express his/her willingness to participate in conservation efforts in a digital register.

Special analysis features: Integration of social and ecological data into spatial prioritization. Landowner survey was analyzed with factor analysis, which enabled the ranking of their perceptions and transformation into cartographical form.

Link: publication <http://onlinelibrary.wiley.com/doi/10.1111/conl.12340/full>

Project description <http://www.syke.fi/projects/BDtargeting>

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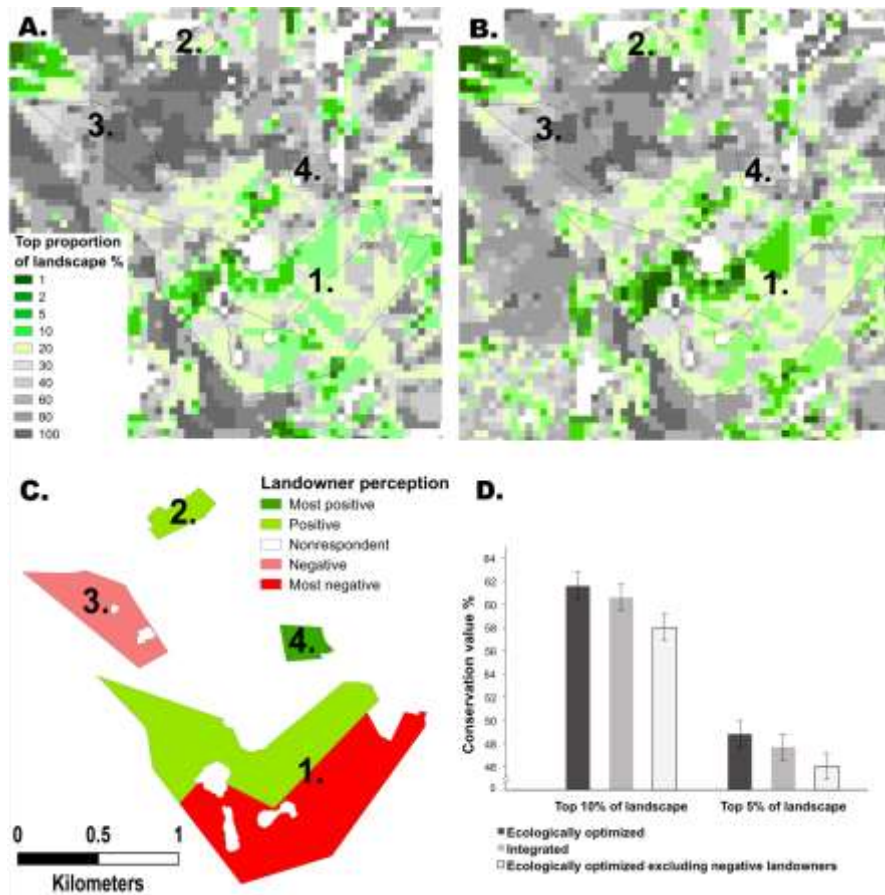


Figure. Zonation prioritization results for an example area. Zonation priorities are shown for the *Ecologically optimized* (A) and *Integrated* (B) analyses. The numbered polygons (1-4) indicate landowner holdings, for which we had data about landowner perceptions, shown by the color-coding in (C). Panel (D) shows the trade-offs in conservation value between the three analyses.