

Landscape scenarios for the Swiss Alps

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Introduction

The importance of the values underlying different concepts of biodiversity conservation and landscape planning is increasingly recognised, and yet these value judgements of the public and of experts are still poorly understood. Although landscape and conservation management are closely interrelated, and measures in one field are likely to have effects on the other, the relationship between biodiversity and conservation values on the one hand (e.g. Duelli and Obrist 2003; Salomon et al. 2006), and landscape preferences on the other hand (e.g. Bourassa 1991; Aoki 1999; Hunziker et al. 2007) has been hardly explored so far.

The objective of this study (Soliva 2007; Soliva & Hunziker 2009a, b; Soliva et al. in print) was to empirically examine the aforementioned relationship from an integrated perspective, considering philosophical, ecological and economic aspects and using items focused on biodiversity. Thus, the following research questions had to be answered:

How do local stakeholders assess scenarios of agricultural and landscape change?

What are the underlying values that drive the scenario assessments?

Are the scenarios assessed differently if taking place at differing elevation levels (e.g., valley ground vs. summer-farm level)?

How do different socio-demographic groups in the Swiss population assess the scenarios?

Method

We used qualitative interviews and stakeholder workshops in a mountain region in Switzerland (Surses), as well as a quantitative survey of the general Swiss public (623 households from all over Switzerland), with visualisations of potential landscape developments in the Swiss Alps (3 scenarios: trend, biodiversity enhancement and market liberalisation) and items related to biodiversity- and conservation-values (assessments on a 7-point scale).

Results and Conclusions

Overall, low-intensity land use is visually preferred over intensive land-use and reforested landscapes. At the same time, spontaneous reforestation is slightly less liked at higher elevations than at lower elevations. Regarding socio-demographic differences, a remarkable result is that older respondents and mountain residents strongly prefer well-tended cultural landscapes over reforested landscapes, younger respondents and lowlands residents less so. In addition, our research shows that respondents who prefer reforested landscapes tend to be more concerned about the conservation of species, landscapes, and natural processes than people preferring cultural landscapes. Respondents who prefer cultural landscapes are more oriented towards utilitarian values and are overrepresented in mountain areas as compared to the lowlands, thus in areas that are more likely to become the target of conservation measures.

Our findings have practical implications for conservation in Switzerland and other mountainous areas, particularly in times of agricultural decline and land abandonment and their associated changes in landscape and biodiversity.

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References

- Aoki Y (1999) Review article: trends in the study of the psychological evaluation of landscape. *Landsc Res* 24:85–94.
- Bourassa SC (1991) *The aesthetics of landscape*. Belhaven Press, London.
- Duelli P, Obrist MK (2003) Biodiversity indicators: the choice of values and measures. *Agric Ecosyst Environ* 98:87–98.
- Hunziker M, Buchecker M, Hartig T (2007) Space and place—two aspects of the human-landscape relationship. In: Kienast F, Wildi O, Ghosh S (eds) *A changing world. Challenges for landscape research*. Springer landscape series, vol 8. Springer, Dordrecht, pp 47–62.
- Salomon AK, Ruesink JL, DeWreede RE (2006) Population viability, ecological processes and biodiversity: valuing sites for reserve selection. *Biol Conserv* 128:79–92.
- Soliva R (2007) Landscape stories: using ideal type narratives as a heuristic device in rural studies. *J Rural Stud* 23:62–74.
- Soliva R, Hunziker M (2009a) Beyond the visual dimension: using ideal type narratives to analyse people's assessments of landscape scenarios. *Land use policy* 26:284–294.
- Soliva R, Hunziker M (2009b) How do biodiversity and conservation values relate to landscape preferences? A case study from the Swiss Alps. *Biodiversity and Conservation* 18:2483–2507.
- Soliva R, Bolliger J, Hunziker M (in print) Differences in preferences towards potential future landscapes in the Swiss Alps. *Landsc Res*.