HUNTing for sustainability
-research on the wider meaning of hunting

SEVENTH FRAMEWORK PROGRAMME

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WP5 Integration Steve Redpath

Work package overview

To meet competing demands being placed on natural resources on a global scale, more integrated, ecosystem-based approaches to management are required. This involves recognising and managing trade-offs in order to avoid conflict. In the context of hunting and biodiversity, this often involves comparisons between a complex range of values, including cultural, economic and ecological factors. Integrated thinking is not only essential for making decisions in policy and practice to balance these interests, but also for researchers seeking to provide the knowledge-base to inform governance by providing a more holistic understanding of the values and impacts of hunting. Both the 'value' of hunting and the process of researcher integration were investigated in the HUNT project.

WP5.1 Integrating multiple values: the 'value' of hunting

Introduction

Assessing the overall 'value' of hunting involves complex context-specific trade-offs between the social, cultural, economic and ecological values and impacts of hunting and the other land-uses with which hunting frequently coexists. The objective of this work package was to develop an integrative framework takes into account the range of values that influence the management of game species and wider ecosystems, and the distribution of costs and benefits associated with them. The research explored how an integrated approach can help mitigate natural resource conflicts by understanding where management objectives are compatible and where negotiated compromise is needed.

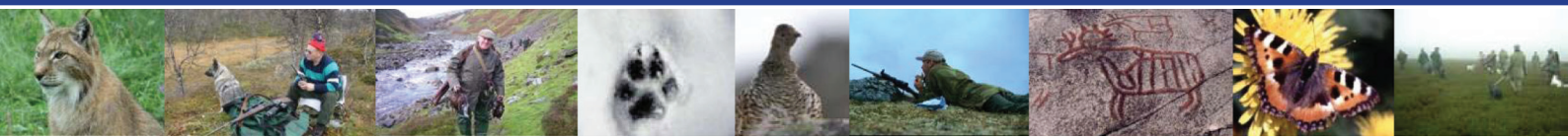
We focused on management decisions and trade-offs for hunting and other land management objectives in Scotland – an issue of current policy relevance – to develop a systematic and inclusive framework that reflects the social, cultural, economic and environmental dimensions of hunting alongside those of other land-uses. Trade-offs in this situation include: (1) the economic benefits of hunting to local communities relative to alternative forms of land use; (2) the role of hunting in maintaining wilderness areas and associated biodiversity and (3) competition between hunting, recreational access and renewable energy development. This document presents an overview of the two complementary methods developed:

i. The decision modelling framework allowed us to incorporate multiple objectives, highlight perceptions and identify perceived barriers to implementing alternative management strategies that integrate hunting alongside other land-uses. This work extended an existing multi-criteria decision modelling framework developed to alleviate grouse/raptor conservation conflict.

ii. A qualitative cost-benefit framework was used to characterise the nature of the trade-offs involved in this conflict and allowed a systematic comparison of the positive and negative impacts to different stakeholders of a range of land management alternatives.

These are complementary approaches for understanding and analysing trade-offs and addressing conflicts over potentially competing land-use objectives.

In summary, these frameworks provide an improved understanding of and capacity to deal with conflict over multifunctional land-uses by representing the range of priorities held by different stakeholders and their assessment of the capacity of different land-uses to deliver economic, social and environmental benefits. This can contribute to the development of more integrative policy instruments for ecosystem management and conflict resolution.



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5.1.1 Values in the decision making process: participatory multi-criteria decision modelling

Althea Davies, Rosalind Bryce & Steve Redpath

Background

Multi-Criteria Decision Analysis (MCDA) is a structured decision-support process that can facilitate dialogue between groups with differing interests and incorporate human and environmental dimensions of a conflict. It encourages examination of the full range of values affecting a decision situation, including monetary and non-monetary criteria. The process helps to define the issues, represent the interests of stakeholders, determine their relative priorities, and quantify how well different management options 'perform' according to the values and objectives of stakeholders. This can indicate the acceptability of alterative management options, so identifying motivations and incentives likely to influence behaviour change. MCDA can also be used to evaluate the effectiveness of existing management strategies. The method can be flexibly used within a range of participatory approaches and adapted to form an important step in environmental decision making and conflict resolution.

In HUNT, MCDA was used as a framework for exploring contrasting land management objectives to inform current policy priorities in Scotland, which emphasise the need for an ecosystem approach in order to deliver environmental, economic, social and cultural benefits (Figure. 1). There is currently little guidance on how to translate this into sub-regional land management decisions and this is a key challenge facing policy-makers, not only in Scotland, but wherever an ecosystem approach is adopted. Multi-criteria decision modelling is one of few methods that can incorporate the complex diversity of values and objectives held by policy-makers and land managers, to ensure that public and private objectives for upland management are fully recognised, and which identifies where differing objectives are and are not compatible. The method was applied in three participatory workshops with regional and national level stakeholders to assess what environmental, social and economic benefits hunting delivers alongside a range of coexisting land-uses, and to identify how these perceptions and perceived barriers to changing management priorities vary spatially across the relevant stakeholder hierarchies.

The first two workshops had a regional focus to examine differences in attitudes amongst stakeholders (1) who manage intensively for game and (2) where hunting is practiced on a more extensive scale. In both cases, hunting coexists with other land-uses, including conservation, both within individual properties (i.e. trade-offs exist within ownership areas) and at a landscape-scale (i.e. potential conflicts occur

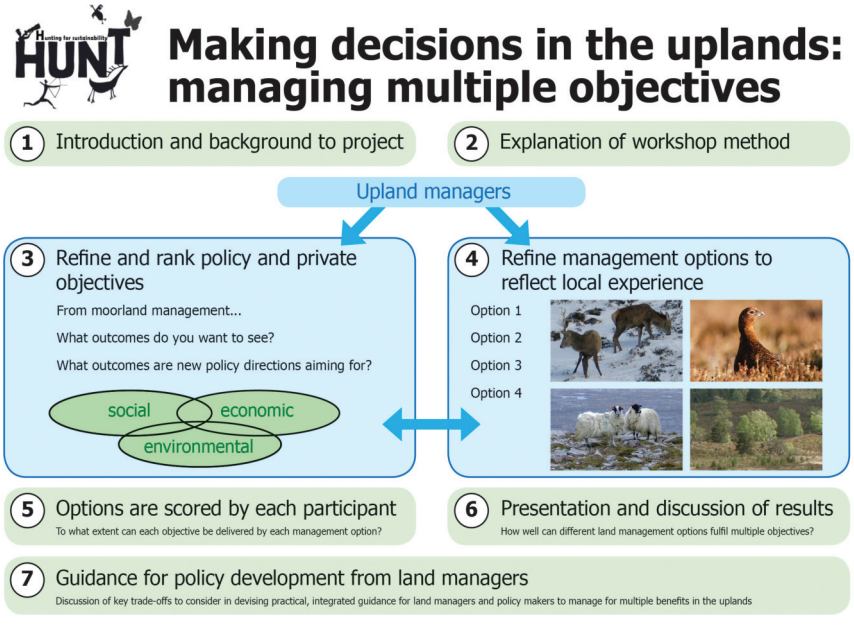
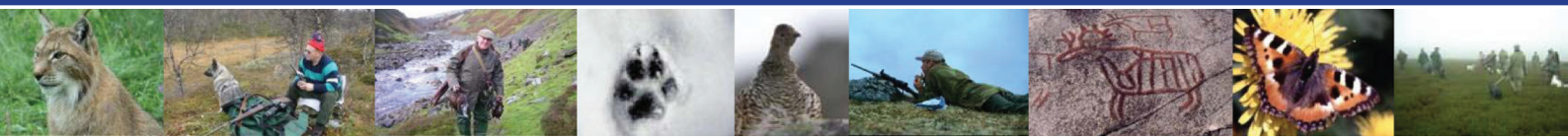


Figure 1. Schematic representation of the MCDA process as applied to Scottish land-use.



between neighbours). To compare the attitudes of local stakeholders directly involved in the management of regional upland areas with those of representatives of national organisations with an interest in upland management, we held a third workshop with the National Consultative Group convened for the HUNT project. This incorporated discussion of the new social, economic and ecological information generated by the HUNT project. This provided a systematic approach for eliciting and discussing different values, management priorities and trade-offs amongst private, state and NGO land managers.

Key findings

The results from the three workshops allowed us to identify key trade-offs – including potential conflicts and synergies – required to meet policy goals for a transition to an ecosystem approach to land management in Scotland, in which hunting plays a significant part. For example, it indicated the trade-offs and compatibilities between sporting (hunting), biodiversity, carbon and renewable energy priorities in upland Scotland. Overall, management for deer stalking was considered to best deliver the broadest range of management priorities, including economic, social, cultural and environmental values, compared with alternatives such as conservation, forestry, renewable energy and tourism. A broader range of priorities was delivered in the NW region, including recreation and renewable energy. This can be partly explained by the lower productivity and higher costs associated with livestock and game, for instance, thus making the available incentives for native woodland restoration and renewable energy attractive alternatives. By contrast, delivering more priorities in the Central Highlands would require greater compromise as the economic value of sporting activities is higher, making trade-offs towards policy interests less attractive (Figure. 2).

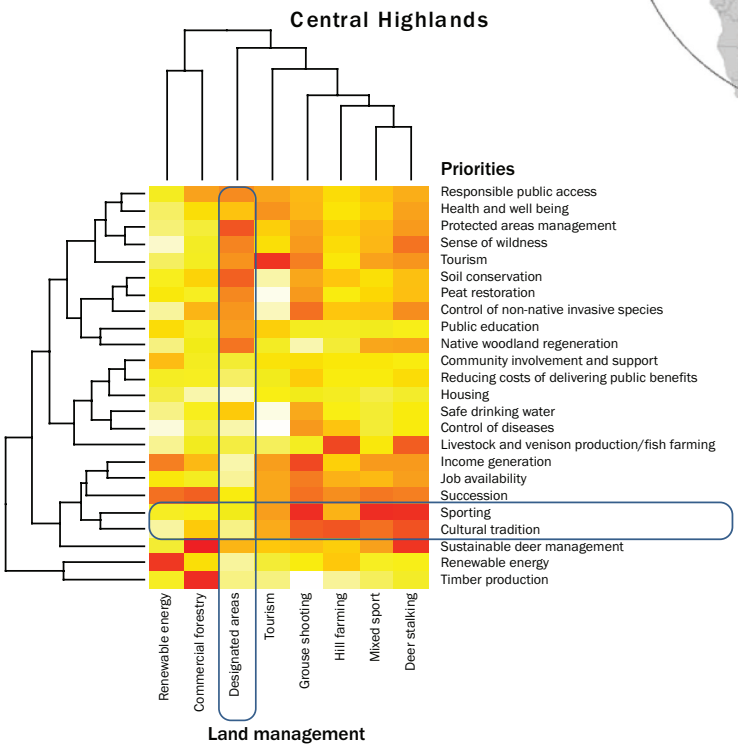
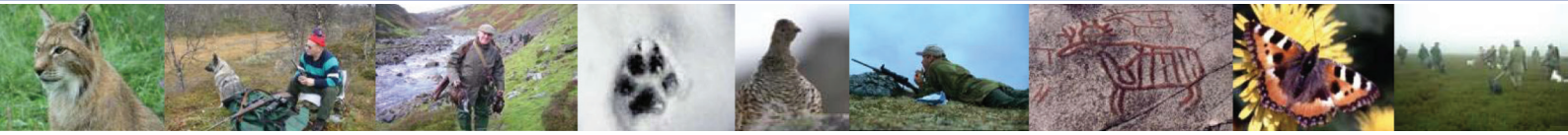


Figure 2. Cluster diagram summarising managers' views on how priorities are delivered by land management types in the Central Highlands. The clusters separate management types (top) according to how similarly they deliver the set of priorities, and priorities (left) according to how similarly they are delivered across the management types. For example, the box highlighting 'designated areas' show how this type of management better delivers priorities related to conservation and education than those related to communities and income. The box highlighting 'sporting' and cultural tradition' shows that these priorities are delivered similarly across the management types suggesting they are closely linked.



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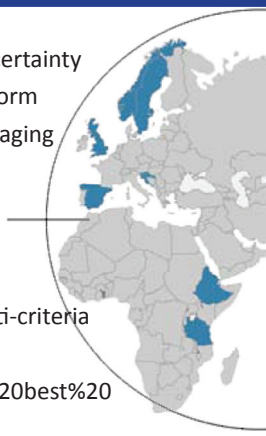
Based on our experience and responses from participants, we highlight numerous key considerations for future multi-criteria work in environmental conflict situations:

- For MCDA outcomes to be useful there should be an appetite for change, a willingness to act on the results and opportunity for constructive dialogue, and stakeholders must be receptive to structured dialogue as part of a decision-making process.
- MCDA is best applied as part of a larger conflict resolution or management planning process. This can make policy makers or managers more aware of shortcomings in existing management effectiveness, trade-offs and how conflicts may be avoided.
- Sets of criteria that reflect the diversity of views and values amongst stakeholders should be drawn from stakeholders directly as well as from research and policy. Each criterion should be clearly defined to avoid ambiguity in understanding the differing views, including recognition that criteria can be either positive (e.g. maximising game numbers for harvest) or negative (e.g. minimal predator numbers). There should be similar numbers of economic, environmental and social criteria to avoid bias towards one particular dimension.
- The alternative management options that are evaluated during the process can represent current management types, possible future scenarios or a gradient of management activity and may be co-developed with stakeholders.
- Scoring the performance of management options against criteria requires stakeholders to make trade-offs between multiple values. It is critical that the questions put to stakeholders to derive these scores are clear and unambiguous in terms of context and scale. An iterative process with discussion and opportunities to rescore may improve the search for compromise.
- There are several methods of deriving a final 'value' for each management option. Transparency should be maintained and all conclusions and interpretation should draw on discursive interpretation in addition to appropriate statistical analysis to avoid generating a false or unstable consensus.
- Visual methods are useful for representing uncertainty and managing differences of opinion and can form the basis for negotiating compromise and managing trade-offs in policy-making and environmental planning.

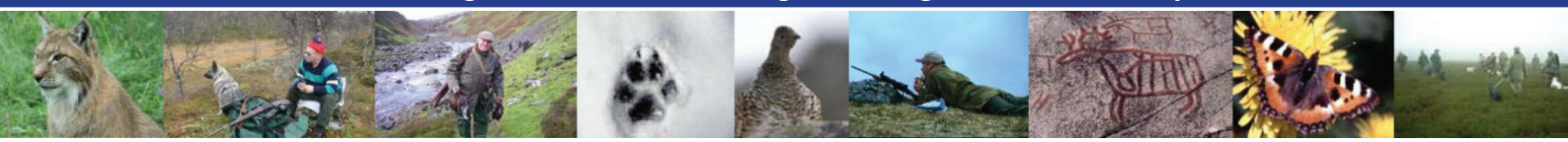


Read more in:

Best practice recommendation: Participatory multi-criteria decision analysis, http://fp7hunt.net/Portals/HUNT/Reports/hunt%20best%20practice-4.pdf

A summary of research findings from the Scottish case study, http://fp7hunt.net/Portals/HUNT/Reports/Scottish%20research%20briefings.pdf

HUNT is an interdisciplinary international research project, financed by the EU's 7th Framework program, looking into the wider meaning of hunting in the 21st century



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5.1.2 Investigating the winners and losers under different management options: qualitative cost-benefit assessment

Dervla Brennan & Nick Hanley

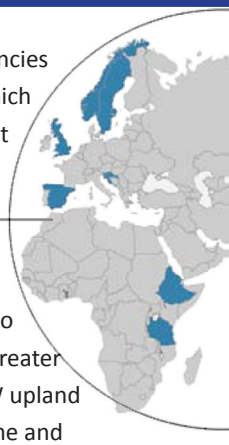
Background

Conservation conflicts can occur as a result of land-use designs, as those who gain from certain objectives will differ from those who lose out. Cost-Benefit Analysis (CBA) is a long-recognised and widely-used tool for assessing the social efficiency of policies and projects. It does this by assigning monetary values to benefit and cost flows. Such gains and losses can be both market-and non-market in nature, although the latter can be difficult or controversial to value in monetary terms, particularly in hunting, where cultural and social values are important.

For this reason, we designed a qualitative CBA process to allow stakeholders concerned with the management of upland sporting estates in Scotland to assess the gains and losses of different land management options identified in the MCDA workshops. Using qualitative CBA avoids having to place monetary values on gains and losses, and allows participants to identify what they perceive as costs and benefits. The transition from policy priorities to regionally implemented practice often causes friction between policy-makers and managers. To characterise these conflicts, the qualitative CBA analysis also allowed us to identify how regional views differ from costs and benefits perceived by national level representatives. The technique provided a systematic way of representing regional and hierarchical variations in the perceived gains and losses associated with different forms of land management, including various styles of hunting, conservation, forestry and farming.

Key findings

The costs and benefits of mixed sport, deer stalking, commercial forestry, native woodland, renewable energy and tourism are broadly similar across the two geographical regions represented during the workshops. Both groups identified regulation and interference in private decision-making by public agencies as major costs to landowners. Regulation changes which impact on management practices also make it difficult to plan for the long term. The qualitative CBA highlighted the influence that the distribution of costs and benefits has on the values that emerged from the multi-criteria framework. For example, alternative management options, such as incentives to develop renewable energy, were perceived to bring greater benefits by stakeholders from the less productive NW upland region, whereas the loss of productive sporting income and tradition in the more intensively managed central region made this a less favourable option there.



Conventional cost-benefit analysis of land use management places little emphasis on the distributional implications of changes in land use, focussing instead on the aggregate net benefit – or efficiency – implications of change. Whilst gaining a picture of the net impact on a particular stakeholder group requires all impacts to be valued in comparable, commensurable units (i.e. monetary), such a step is not needed if sufficient insight can gained from knowing what the benefits and costs are, and who experiences them, particularly when assigning monetary values is difficult and contentious. Understanding how stakeholders perceive these benefits and costs is just as important as assigning a “scientific” or economic-theory derived value to them, since it is perceptions of gains and losses that determine the acceptability of impacts to stakeholders. Presenting the results of a qualitative CBA in terms of who gains and who loses, and what these gains and losses are, may increase the acceptability of the CBA framework on the part of both those affected by a decision, and those charged with making decisions and implementing change, in a way which might not be true if the sole focus is on aggregated economic values.

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