

11. Landscape-level Effects: Summary of Issues

Problem

Agriculture is associated with a wide range of “cultural landscapes” in Scotland. Current agricultural practices may lead to the alteration or loss of these landscapes. These losses can be direct, eg through removal of landscape features like walls and hedgerows, or indirect through reduced management (eg lack of rabbit or bracken control).

Impact

Changes in landscape patterns can have direct impacts on landscape functions (eg loss of ecological structure) and cultural features (eg archaeological or built heritage). Research on landscape value shows that people are sensitive to landscape character.

Systems/Areas at Risk

The National Countryside Monitoring Scheme of SNH has shown that landscape change has been a feature of all agricultural contexts in Scotland since 1945 (eg arable production has reduced in the west and north, and intensified in the east. Significant areas of rough grazings have gone under forestry. Crofting systems have become increasingly based on sheep). Future trends indicate continued restructuring and intensification in the east, and possible extensification of hill and upland systems in the west and north. All areas of Scotland are therefore liable to change.

Remedial Measures/ Practical Actions

Landscape is a holistic, all-embracing concept. Like many water catchments, whole landscapes belong to everybody but are nobody's direct responsibility. Elements of landscape are, however, the responsibility of local authorities (eg related to development control), and agencies like Historic Scotland concerned with conservation of cultural heritage. The term “natural beauty” is included in the founding legislation of Scottish Natural Heritage and is taken to include landscape. SNH has developed a system for Landscape Character Assessment (LCA) which is used both in National Planning Policy guidance and in Planning Advice Notes. However, the practical use of the LCA system is limited to specific developments (e.g. East Ross Settlement Landscape Capacity Study; Guidelines on the Environmental Impacts of Windfarms and Small Scale Hydroelectric Schemes). There is little experience concerned with good landscape practice relating to agriculture. This contrasts with extensive experience in the forestry sector with the concept of landscape character being incorporated into the Forestry Commission Guidelines on Forest and Woodland Design.

Linkages

Landscape is an overarching concept and therefore affects all aspects of agriculture/environment interactions. There is a strong continental European tradition, best developed in the Netherlands and the Czech Republic, that suggests the adoption of sound landscape management practices yields benefits in terms of improved soil, water and habitat conditions. There are social benefits in terms of conservation of cultural heritage and enhanced quality of life, and economic benefits in terms of the landscape supporting tourism and recreational activities.

Research Gaps

In general, the holistic tradition of landscape planning that has developed in some countries of continental Europe is poorly developed in the UK. (see, for example, the Dutch government's recent policy document "Nature for People, People for Nature", which sets out their "strong belief that nature and landscape are essential contributions to a liveable and sustainable society"). The UK and Scottish approaches are more fragmented. Landscape change has been relatively well documented in Scotland (e.g. SNH National Countryside Monitoring Scheme). The landscape character of Scotland has been classified through SNH's Landscape Character Assessment (LCA) Programme. However, whilst the LCA approach has been well used in relation to specific development issues (eg housing, wind farms), it appears to be poorly developed with respect to the impacts of agricultural change on the landscape. It is likely that this is because agricultural change is not subject to the normal planning process associated with development control. Nonetheless, agri-environment schemes, like the Rural Stewardship Scheme, do require a plan-based approach and are specifically concerned with the maintenance or enhancement of "particular habitats and landscape features". Positive guidance, similar to that available for forest and woodland design, is not available for best practice in managing change in agricultural landscapes and there is a clear opportunity to provide this in relation to SNH's Landscape Character Types. There is also a need to investigate what landscapes that are capable of satisfying the demands for a "multi-functional" countryside might look like. This research could build upon existing work on sustainable agricultural landscapes being done at the University of East Anglia.

11. Landscape-level Effects: Critical Commentary

11.1. Problem

Agriculture has created a wide range of “cultural landscapes” in Scotland. Modern agricultural practices can result in the alteration or loss of these landscapes. These losses can be direct through removal of landscape features (eg walls/hedgerows) or indirect through reduced management (eg lack of rabbit or bracken control).

11.2. Impact

Changes in landscape patterns can have direct impacts on landscape functions (eg loss of ecological structure) and cultural features (eg archaeological or built heritage). Research on landscape value also shows that people are sensitive to the kind of signals the landscape character gives: “if it signals care, generosity, a long-term sustainable use, a linkage to traditional patterns, health attractiveness, or if it signals carelessness, greediness and exploitation” (after Gustavsson, 1999).

11.3. Systems/Areas at Risk

The National Countryside Monitoring Scheme of SNH has shown that landscape change has been a feature of all agricultural contexts in Scotland since 1945 (eg arable production has reduced in the west and north and intensified in the east. Significant areas of rough grazings have gone under forestry. Crofting systems have become increasingly based on sheep). Future trends indicate continued restructuring and intensification in the east, with a possible shift to broadleaved woodland and native woodland schemes in areas with poorer land. Areas which have no statutory designation/protection (eg SSSI, NNR etc), and have fragile rural economies with few employment alternatives to agriculture, are identified as being at greatest risk to change.

11.4. Remedial Measures/ Practical Actions

Landscape is a holistic, all-embracing concept. Like a water catchment, it belongs to everyone yet is the responsibility of no-one. Nonetheless, elements of landscape are clearly the responsibility of local authority planners (eg related to development control), and agencies like Historic Scotland concerned with cultural heritage. Scottish Natural Heritage considers the term “natural beauty”, which is included in its founding legislation (The Natural Heritage (Scotland) Act 1991), to include landscape (Hughes and Buchan, 1999) and have developed a system for Landscape Character Assessment (LCA) which is being used both in National Planning Policy guidance and in Planning Advice Notes. However, the LCA system is being most heavily used in development contexts (eg East Ross Settlement Landscape Capacity Study; Guidelines on the Environmental Impacts of Windfarms and Small Scale Hydroelectric Schemes). There is little research or experience concerned with good landscape practice relating to agriculture. In contrast the Forestry Commission have an established track record in forest design since the 1960s and the concept of landscape character is incorporated into their Guidelines on Forest and Woodland Design. Research on the landscape impacts of agricultural change in Scotland is very limited, and mostly concerned with inventory. Relevant research on visualising

“sustainable” agricultural landscapes using computer visualisation is being undertaken by Andrew Lovett and others at the University of East Anglia. This is aimed at *ex ante* (before) assessment of the impact of existing or proposed farm management on biodiversity and landscape character (Lovett *et al.*, 2002). On the ground, “landscape laboratories” aimed at evaluating the costs and benefits of alternative designs of mixed agricultural and woodland landscapes are rare in Europe. Exceptions are the Alnarp Landscape Laboratory run by the Faculty of Agriculture at the Swedish University of Agricultural Sciences and its two satellite sites at Snogeholm and at Toftanäs in Malmö.

11.5. Linkages

Cultural Heritage: both individual sites and cultural landscapes.

Biodiversity: the layout and connectiveness of landscape features such as walls, hedgerows and vernacular buildings (eg for bat roosts) are important.

Quality of Life: landscape provides function (eg recreation), cultural and aesthetic dimensions.

11.6. Research Gaps

Landscape changes have been relatively well documented in Scotland. The landscape character of Scotland has been classified through SNH’s Landscape Character Assessment Programme. However, whilst the LCA approach has been well used in relation to specific development issues (eg housing, wind farms), it appears to be poorly developed with respect to the impacts of agricultural change on the landscape. It is likely that this is because agricultural change is not subject to planning approval and does not go through the normal planning process associated with development control. Nonetheless, agri-environment schemes like the Rural Stewardship Scheme do require both a plan-based approach and are specifically concerned with the maintenance or enhancement of “particular habitats and landscape features”. Removal of dykes and hedgerows, for example, is not permitted (SEERAD, 2000). However, positive guidance, similar to that available for forest and woodland design, is not available for best practice in managing change in agricultural landscapes and there is a clear opportunity to provide this in relation to SNH’s Landscape Character Types. The current approach is based upon maintenance and conservation of current landscape features. However, there is a real need to investigate what opportunities there are to create new landscapes which are capable of satisfying the demands for a “multi-functional” countryside. Both the idea of “landscape laboratories” being pursued by Gustavsson and colleagues at the Swedish University of Agricultural Sciences, and the idea of visualising sustainable agricultural landscapes appear to be worth developing. The lesson of history is that rural landscapes have changed reflecting the changing needs of society. If we have an overarching vision of a future countryside that supports a viable farming sector and provides a well stewarded environment, it is likely that the associated landscape will have to be designed to ensure an equitable balance between private and public interests. Currently, we do not have either the vision of what sustainable agricultural landscapes might look like, or the means of

delivering them. Such an overarching vision is important to the development of future schemes such as Land Management Contracts.

11.7. References

Bell, S. (1999). Landscape pattern, perception and process. E&FN Spon, London, pp344.

Hughes, R. and Buchan, N. (1999). 1. The Landscape Character Assessment of Scotland. In: Usher, M.B. (ed). *Landscape Character: Perspectives on Management and Change*. Edinburgh: The Stationery Office, 1-11.

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Lovett, A., Kennaway, R., Sünnenberg, G., Cobb, D., Dolman, P., O'Riordan, T. and Arnold, D. (2002). Visualizing sustainable agricultural landscapes. In: Fisher, P. and Unwin, D. (eds) *Virtual Reality in Geography*, Taylor and Francis, London, 102-130.

Scottish Executive, (2000). The Rural Stewardship Scheme. Edinburgh: The Stationery Office, pp104 plus appendices.

Please see Appendix 6 for selected bibliography on landscape level effects

