


Land Use Benefits Workshop Report

Workshop held at Glen Lui Hotel, Ballater. 5th June 2014


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Executive Summary

- This workshop was the second in a series of three that sets out to explore how land use decisions can take account of the wide range of benefits the environment provides to society. Insights gained from this research will allow local knowledge to feed into the development of Scotland's Land Use Strategy through the Aberdeenshire Regional Land Use Pilot.

- Previously we looked at the benefits that current land uses in the Ballater area provide and what influences decisions about land use. In this workshop 12 participants explored the future, especially in relation to some of the Scottish Government policy goals contained in the Land Use Strategy and discussed the advantages and disadvantages of land use changes that could be used to achieve these policy goals in the Ballater area.

- The workshop comprised two main activities. In the first, we asked participants to offer suggestions and comments on a diagram of the land use system in the Ballater area which depicts the influences on land use decision making as well as the consequences of this for the ecosystem services and benefits derived from the land. The Land Use Systems diagram was produced following input from participants in the first workshop as well as input from researchers at the James Hutton Institute.

- Feedback from the Systems Diagram exercise indicated that in general the group felt that the diagram is fairly representative. There may be other considerations that could be included such as age of land managers and whether they plan for the short or long term. Attitudes to risk and willingness to diversify will also affect choices. For example, climate change is also driving decision making but not all land managers will be willing to take the risk or plan ahead to invest in crops etc. for a changing climate. Property rights and land reform were felt to be important as were levels of bureaucracy and taxation. Housing as a land use should be included both in its own right and for the influence it can have on other land uses e.g. tourism, forestry

- In the second exercise participants evaluated the land use changes that may result if the five broad Land Use Strategy Goals (Low carbon economy, Safeguarding food production, Halting biodiversity loss, Enhancing recreation opportunities, and Sustainable water management) were pursued through particular strategies. Maps were produced by James Hutton Institute researchers and Aberdeenshire Council using the best available scientific information to illustrate the potential land use changes. The workshop participants discussed the advantages and disadvantages of the different strategies and the usefulness of the maps for informing land use planning and decision making.

- Feedback from the Land Use Strategy Goals exercise demonstrated that integration of multiple land use is important but decisions need to be taken on a case by case basis incorporating local knowledge. The risks of working on a large scale may mean that suitability of certain areas is not matched by the reality on the ground, however, identifying zones where particular land uses can provide a range of benefits was potentially useful as part of a process for deciding on appropriate land uses.

- This information (and subsequent further analysis) will be fed back to Aberdeenshire Council and the Scottish Government Land Use Policy team to inform the review of the Land Use Strategy. Our next steps will be to conduct further analysis of the data obtained from both this and the initial Ballater workshop along with data from similar workshops held in the Huntly area to compare and contrast the benefits and land use decisions that feature in these

two contrasting local focus areas.

- The research was undertaken using funding from the Ecosystem Services Theme of the Scottish Government Environmental Change Programme 2011-2016. The specific research was not directly commissioned or endorsed by Scottish Government.

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Introduction

As part of the national implementation of the Land Use Strategy the Scottish Government is running two pilots, one in the Scottish Borders and one in Aberdeenshire. One of the aims of the Land Use Strategy is to promote the delivery of multiple benefits from the land (such as food, timber, energy, landscapes, recreation and flood protection) based on the principles of the Ecosystem Approach.

A fundamental principle of the Ecosystem Approach is that decision-making should be devolved to the scale appropriate to the people who are affected by the decision.

This workshop is part of a sequence of activities where local people evaluate how the multiple benefits that land provides to society can be managed in a more sustainable and integrated way. The main objective of this second workshop was to seek input from stakeholders local to the Ballater area on a Land Use (or systems) Diagram which attempts to show how the influences affecting land managers affect the way land is used and the benefits (Ecosystem Services) derived from these land uses This was developed from the information participants provided at the first workshop. In addition the five broad Land Use Strategy goals were introduced and six of the many possible ways these policy goals could be realized in terms of land use change were evaluated by participants in more detail.

The insights from this workshop will feed into the development of Scotland's Land Use Strategy through the Regional Land Use Pilot which is currently being conducted in Aberdeenshire.

Participants

Four facilitators from the James Hutton Institute ran a workshop on the 5th June at the Glen Lui Hotel, Ballater

12 participants were joined by two researchers from the James Hutton Institute who had been involved in the production of the Systems Diagram and the Land Use Area maps. For more information on the participants please see table 1. Stakeholders who were invited but could not attend included local estate owners/managers, Scottish Environment Protection Authority, Scottish Water, Scottish Wildlife Trust, agricultural consultants and local farmers. Reasons for absences were varied but all those who were invited will receive the report and will have the opportunity to attend the final workshop.

Participant	Organisation
Andy Ford	Cairngorms National Park Authority
David Frew	National Trust for Scotland, Mar Lodge Estate
David Winton	National Farmers Union Scotland
Fiona Cruickshank	Scottish National Heritage
Ian Cowe	Forestry Commission Scotland
James Davidson	Aberdeenshire Council
Jane Angus	Ballater and Crathie Community Council
Linda Mathieson	Aberdeenshire Council / Aberdeenshire Local Outdoor Access Forum
Mark Bilsby	Dee District Salmon Fishery Board
Nick Mardall	Marr Area Partnership- Community Development Trust
Stuart Jennings	Royal Society for the Protection of Birds
Gary Polhill	James Hutton Institute

Table 1. List of workshop participants and the organisations they represent

As an 'ice-breaker', we asked participants to introduce themselves and talk about a photograph they had brought that held some meaning for them. People talked about native tree regeneration on run down areas of moorland and planting trees on riparian zones. There was discussion about how more woodland would fit with the Royal Deeside brand and how to encourage the local communities to make greater use of the natural environment. Participants thought that field sports still have an important role to play on estates in the Ballater area and that salmon fishing and tourism is important for the local economy.

Exercise One: Linking land use decisions and benefits from the land

Following input from participants at previous workshops where some of the links between land use decisions and the delivery of benefits from the land (ecosystem services) were determined, researches from the James Hutton Institute produced a draft systems diagram (figure 1). The diagram allowed us to explore the influences and constraints on the way land managers make decisions and how these decisions can lead to a variety of ecosystem services and benefits. Participants were asked for their feedback on the researchers' understanding of the system and whether the boxes and arrows in the diagram made sense or not and whether anything was missing.

The systems diagram was split into Decision Making Influences (land manager objectives, business characteristics and actor characteristics and the associated constraints) and Ecosystem Services and Benefits (land use, land capability and the goods and services we get from land) Participants were divided into four groups (3-4 per group plus a facilitator) and each group was given the opportunity to scrutinize and critique both sides of the diagram.

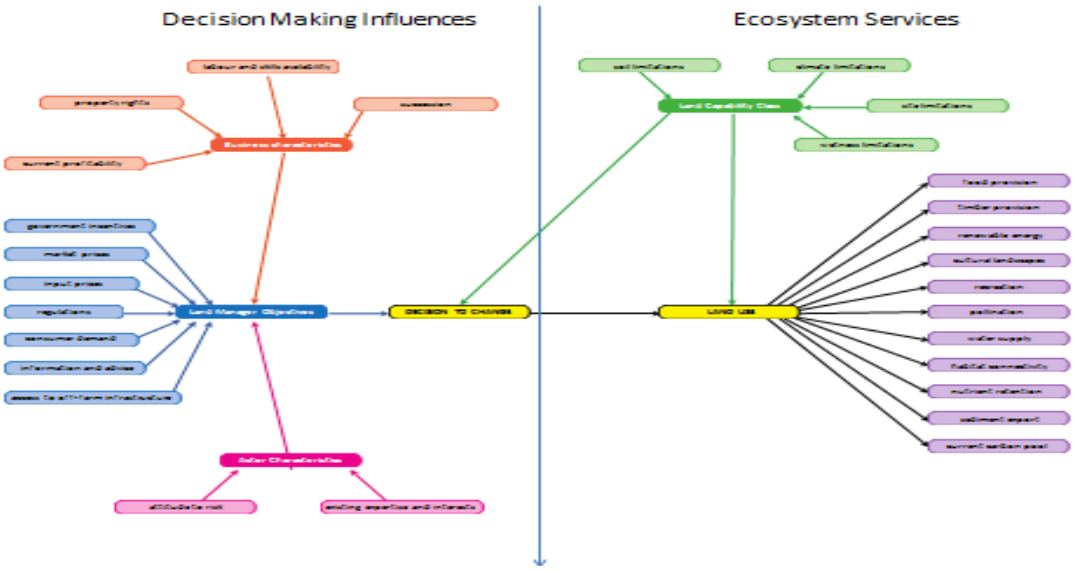

Figure 1- Systems Diagram: The left half represents the influences that affect land managers and their decision to change. These are clustered into categories relating to Actor (personal) characteristics (Pink), Business characteristics (orange) and external influences (blue) that affect land management objectives. For example, a personal attitude to risk influences the land management decision as does the labour availability and input prices. The right side of the diagram starts with the land use (yellow) which is influenced by the decision making factors and

the Land capability (green) which together then influence the services and benefits (purple) derived from this land use

Decision Making Influences (left side of diagram): There was general agreement that the system diagram needs to recognize the influence (link or feedback) from *ecosystem services* to the *external influences* which are often policy related and that a combination of factors would ultimately influence decisions. In addition participants thought that;

- The balance between government regulations and government incentives needs to be considered; regulations may be unpopular and difficult to enforce whereas incentives, though not compulsory, may be more successful due to the collaborative nature of that approach.
- Government incentives are currently causing uncertainty as many farmers are planning over 3-4 years yet incentives haven't been finalised and will be reviewed in 5 years.
- Land capability will affect land managers options
- The age of land managers was not perceived to be important but attitude to diversification will have a bearing on decision making.
- Long or short term thinking and whether a land manager owns the land or is a tenant will have an influence on behavior.
- The availability of housing for the local workforce and the option of using land for housing will affect decision making.
- Public opinion, cultural and peer pressure can have a big influence in choices regarding land use in the Ballater area. Some land managers (e.g. non-governmental organisations) are very public facing so have to manage public expectation and opinion. Private estates have to manage the expectations of their neighbours and clients.
- National identity- 'Royal Deeside' was perceived to be important.
- Consumer demand only works for market goods. If non-market goods are being produced the service provided is important. There are aspects of consumer demand for recreation and tourism e.g. deer stalking or grouse or pheasant shooting that should be considered.
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Ecosystem Services and Benefits (right side of the diagram): Participants felt that stalking and shooting are more than just recreation in the Ballater area. Along with tourism they are a vital aspect of the local income and all could be encompassed in a box called business/economy. Other comments include;

- Nature conservation, which people felt was similar to but not the same as habitat connectivity should be included.
- Incentives can influence decisions in the short term but do not guarantee that long term benefits will be realised.
- Changes that land managers are willing to make often depends on the ease of undoing them.
- Some benefits are linked to the mix and variation of land uses.
- Climate change can have both positive and negative impact e.g. generally warmer temperatures can lead to opportunities for new crops such as grapes, but if there is also more variability in the weather one extreme winter may devastate such a crop.
- Land capability influences and is influenced by things on the decision side of the diagram, i.e. information, infrastructure, regulation and markets. Technology and water

supply will also have an impact.

- There was an issue with scale within the boxes. Some cover a broad area (food) while others are more specific (habitat connectivity)

Exercise Two: The Land Use Strategy Policy Goals and implications for the Ballater Area

Exercise two involved looking in greater detail at the five Land Use policy goals (*Low Carbon Economy, Safeguarding Food Production, Halting Biodiversity Loss, Enhancing Recreation Opportunities* and *Sustainable Water Management*) and their implications for the Ballater area.

There are a number of ways that these Policy Goals can be realised. For example, a Low Carbon Economy could be achieved by planting more trees and/or increasing renewable energy and/or restoring peatlands. Safeguarding Food Production could be accomplished by protecting arable land against inappropriate use and/or dealing with pests and diseases and/or planting appropriate crops.

We asked the participants to discuss and feedback their thoughts on how the following options would impact on the Ballater area:

- The consequences of *Woodland Expansion* and the *Impact of Developing Renewable Energy* in response to the Low Carbon Economy goal.
- The consequences of *Protecting Prime Land* in response to the Safeguarding Food Production goal.
- The consequences of *Increasing the Network of Paths around Ballater* in response to the Enhancing Recreational Opportunities goal.

- The consequences of *Increasing Broad-Leaved Woodland Connectivity* in response to the Halting Biodiversity Loss goal
- The consequences of potential changes in *Surface Water Availability* for the Sustainable Water Management goal.

The potential land use changes resulting from the above responses to policy goals were illustrated where possible as maps produced by James Hutton Institute researchers. These were created on the basis of existing land use maps using sets of positive and negative criteria to evaluate which areas may or may not be suited for changes in land use. An example of a negative criterion for woodland expansion would be 'woodland should not be planted on prime agricultural land'. An example of a positive criterion for woodland expansion would be 'woodland should be planted close to towns'. For each area the sum of all the positive and negative criteria was used to produce an indicator of how suitable an area would be for the considered land use change (but were not prescribing where land use change should take place). Participants were encouraged to give us critical feedback on how suitable and useful the maps would be in assisting with decision making.

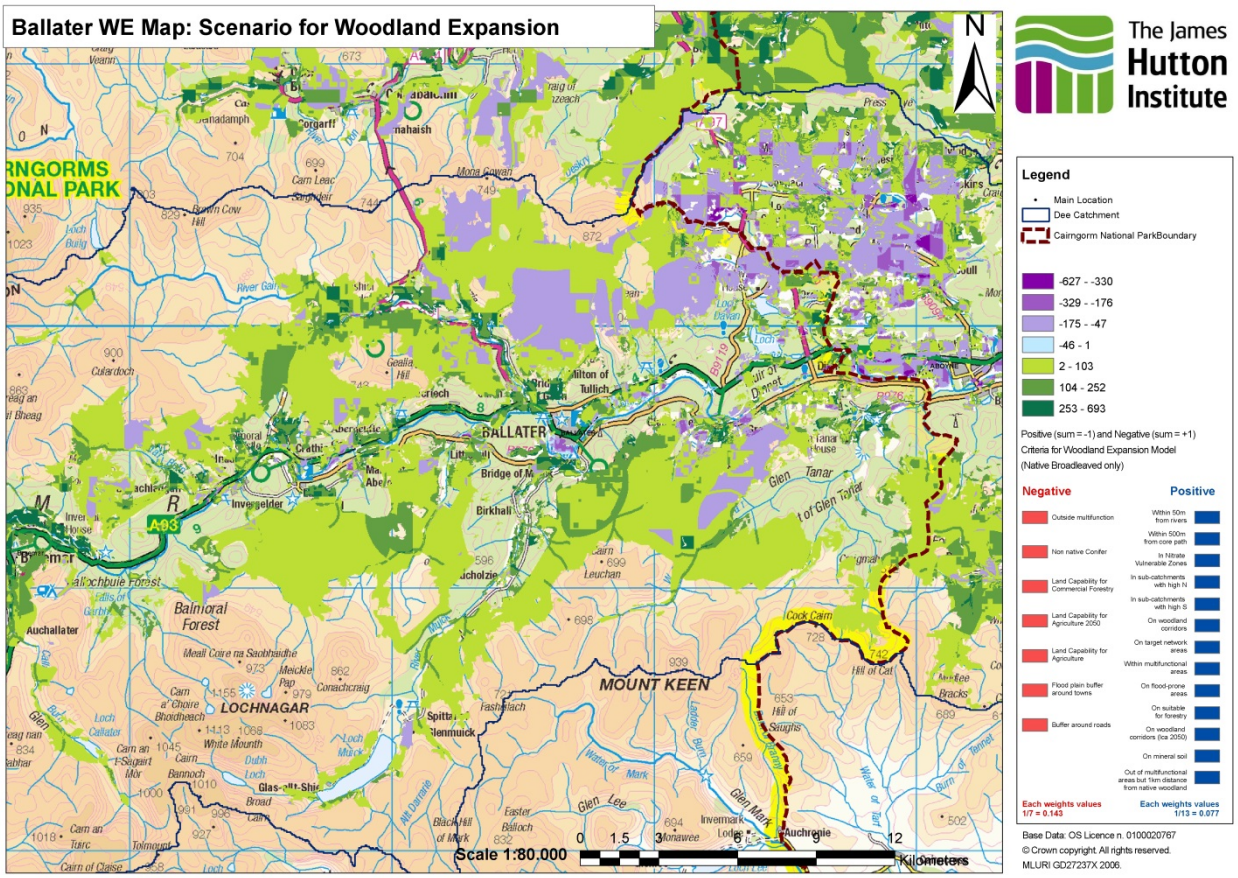

Figure 2.-A land cover map showing one of many potential scenarios for woodland expansion. Dark green areas are most suitable based on the values given to the positive and negative criteria used in the model. Light yellow areas are least suitable. Areas without the green-yellow overlay within Aberdeenshire are either existing woodland or regarded as completely unsuitable for woodland.

Woodland Expansion

Participants agreed that the map showed broadly plausible areas suitable for woodland expansion in the Ballater area considered in relation to other objectives and in relation to the prime land expansion potential (see section on expansion of prime land). There was a discussion of how best to enable small scale planting within areas dominated by agricultural land. This could be achieved by creating a set of general exceptions applicable to woodland in prime land areas and by taking into account local knowledge of the other benefits woodland can provide in a landscape. Woodland expansion models should also map suitability for commercial woodland which should account for around 60% of woodland expansion to be economically viable. Protected areas and their objectives need to be integrated into the model predictions. Participants thought that the main factor in any form of land use would be the attitude of land managers which are likely to be influenced by levels of incentives.

The Impact of Renewables

When asked to think about renewables in the area participants considered climate regulation, energy security, community income generation, local job creation and sustainability as advantages. However many renewables will have an impact on the landscape and the land itself, for example in the form of visual impacts (e.g., solar panels) or impacts on biodiversity (e.g., hydropower may impact fish). Participants expressed doubt as to whether small-scale renewables were cost-efficient and highlighted problems connected to the unreliable nature of these sources (e.g., burns may dry out and sun does not shine much in winter) and the need to develop the necessary infrastructure before such schemes could go ahead. Participants agreed that no system was ideal. They thought that the construction of more energy efficient housing with improved insulation would go some way to achieving a Low Carbon Economy

The Expansion of Prime Land.

Participants agreed that, in general, there is no perceived problem with the expansion of prime land if more land becomes suitable for agriculture as the climate changes. However as the majority of prime land would be on the valley bottoms there was a proviso that areas that had conservation value should be protected and some form of criteria or constraint should be built into the model to take account of the consequences on biodiversity. There was some discussion about whether protection of prime land should be absolute or subject to other priorities (e.g. planting to reduce flooding) and the potential effects of changing land use, e.g. risk of flooding downstream in relation to land use higher up a catchment or the effects on livestock if arable farming increases.

Increasing the Network of Paths around Ballater

Access to benefits from the land in the form of physical and mental wellbeing, greater understanding of nature, mutual respect and an appreciation of the countryside were cited as advantages to increasing the network of paths around Ballater. However participants felt that many of these advantages relied on responsible behavior. They believed that inappropriate behavior would result in disturbance to wildlife and result in conflicts with other users and land managers. Paths can be visually unattractive and easily eroded particularly on a mountain and were deemed by some as unnecessary in light of the 'Right to Roam' legislation. There was some discussion about the provision of disabled access, using paths to control access to sensitive areas and the feasibility of using other methods of 'enhancing recreation opportunities'.

Broad Leaved Woodland Connectivity for Biodiversity

Developing woodland corridors for biodiversity was seen by the participants as an essentially positive action. Advantages included increased connectivity, shelter for wildlife and providing climate change resilience for habitats. However, greater connectivity can result in an increased risk of the spread of invasive plants, fire, and disease. There will always be a trade off with other habitats when planting trees and participants felt that it was important to improve the general habitat rather than focus on one particular species. Therefore trees should be planted that are the correct choice for the local environment. The group discussed SRDP and agri-environmental schemes, agreeing that they were not the best form of incentive. They felt that there is a disconnect between the policy vision and implementation.

Surface Water Availability

Overall, the map showed areas where, if the predicted land use and climate change assumptions are correct, there will be less water run-off in the summer. Scottish Water believes that problems regarding the supply of drinking water can be solved through technical solutions e.g. build more storage facilities and transfer water between water resource zones. However participants felt that as there is already a local problem of supply and demand water could become a planning constraint in the future. Water for Ballater is already being transferred across Aberdeenshire from Invercarron and over-sourced (by 17%) from the Lower Dee. Participants felt that the only solution in the long term may be a reservoir at Loch Muick.

Unfortunately dams are not good for fisheries and it's likely that the loch could be used for water sports and hydroelectric power. Alternatively the Don and the Ythan could be used as back up resources.
There followed a discussion about on-land management measures to help increase run-off including removing drains and re-wetting peatlands, naturalising rivers and reconnecting floodplains and increasing tree planting on riparian zones.

Next Steps

The James Hutton Institute is collaborating with Aberdeenshire Council, in the Regional Land Use Pilot (RLUP), the aim of which is to test and evaluate how the Land Use Strategy can be used to guide decision-making to optimise the benefits from land when there are often competing or conflicting objectives among and between policy and private interests. One of the roles of the James Hutton Institute within this is to gather stakeholders' perspectives on current and future land use, to identify the factors influencing land use changes and decisions to obtain a better understanding of the benefits that the land provides. This information will be fed back to Aberdeenshire Council and the Scottish Government Land Use policy team to inform the review of the Land Use Strategy in 2015-6. Our next step is to plan the final group of workshops, in both the Ballater and Huntly areas to be held in autumn 2014. We will also collate the information obtained from this workshop with previous Ballater workshops to compare the results. The final round of workshops will focus on evaluating the trade-offs in benefits from different possible future scenarios. We would encourage all those who attended previous workshops to attend the final workshop, along with invitees who were unable to attend the earlier workshops. We also welcome suggestions for other participants.

Since the initial workshops we have been analysing the information provided by the activities in the workshops. The views and suggestions gathered from this workshop will be communicated to the James Hutton researchers to develop the systems diagram and to the RLUP team for use at their next steering group meeting. Further information on the workshop analysis will be available in due course, however if you would like any information in the meantime please contact Anja Byg on 01224 395411 (Anja.byg@hutton.ac.uk). We may also, if the participants are willing, be in contact with them for more individual information in the future.