



Landscape level management case studies for ecological, economic and social outcomes: lessons learned

**Kit Macleod, Kirsty Blackstock, Graham Begg,
Antonia Eastwood, Anke Fischer, Petra Lackova,
Laure Kuhfuss, Orla Shortall and Andy Vinten**

SEFARI
LEADING IDEAS
FOR BETTER LIVES



Scottish Government
Riaghaltas na h-Alba



The James
Hutton
Institute

How can we help improve landscape level management of natural assets across multiple properties?

Practical insights to support stakeholders in implementing landscape level management for ecological, economic and social outcomes.



| What | How | When |
|---|--|--------------------------------|
| 1. Engaged with researchers studying landscape level management. | Five cases, observed or directed landscape level management and co-developed our methodology. | 2016- |
| 2. Review of practical adaptive management and draft evaluation framework. | Summarised adaptive (co-) management (and governance) research and practice. | 2016- 2017 |
| 3. Co-production of interview questions with research and non-research stakeholders. | Researcher workshop and stakeholder feedback. | July- December 2018 |
| 4. Interviews with researchers (natural and social science perspectives). | Interviews with researchers. | March- May 2019 |
| 5. Comparative analysis using framework approach. | Transcripts analysed (deductive), framework approach, and peer review of the findings by the co-authors. | September- November 2019 |
| 6. Draft policy briefing for policy and management stakeholders. | Drafted and shared with stakeholders. | December 2019- |

Cases



East Cairngorms Moorland Partnership
Cairngorms Connect

White-tailed eagle

Lunan
Balruddery



Cases

| | Balruddery | Cairngorms Connect | East Cairngorms Moorland Partnership | Lunan | White-tailed eagle |
|----------------------|--|---|--|---|--|
| Area (ha) | 3 500 | 60 000 | 100 000 | 13 400 | Argyll & Lochaber, Skye & Lochalsh. |
| Land use | Arable (some soft fruit and livestock). | Moorland, native woodland and coniferous forestry. | Moorland, native woodland, and coniferous forestry. | Arable (some horticulture and livestock) . | Hill sheep farming and commercial forestry. |
| Who | 12 farms (tenanted and owners). | Five estates owning around eight land parcels. | Six estates (private and NGO- National Trust; Crown Estates). | Four riparian owners directly involved and others. | Crofts, farms and forestry owners and others (National Sea Eagle Stakeholder Group). |

Recommendations and your (initial) views

Steps

14 recommendations and conclusions.

Show of hands: do you agree, neither agree or disagree, or do you disagree?

Please think about what maybe missing from our cases/data and what you may have expected.

We will share a short (24 pages) research briefing and we welcome further feedback.

First of all

Show of hands: hands up if you identify yourself as an academic researcher?

1. Understand the context, stakeholders and shared purpose

Expect to spend significant time and resources understanding the context, identifying and engaging possible direct stakeholders and agreeing a shared purpose before any work 'on the ground' can start.

1.1 Shared understanding of the context

When starting to plan landscape level adaptive management, consider what the landscape comprises in terms of diverse ownership and management arrangements, and establish a shared understanding of the current condition of the natural assets.

1.2 Identify and understand the direct decision-making stakeholders

Try and understand the main decision-making stakeholders from their perspective in terms of their objectives and preferences, before trying to agree a shared purpose and how the purpose may be achieved.

1.3 Identify and agree the shared purpose

Problem framing is not always self-evident, and it can take time to develop a shared purpose. If there is no existing shared problem framing and purpose, then more time and resources (including time and resources for facilitation) may be needed to develop a shared purpose.

2.Focus on the social processes of landscape level management

The social processes of adaptive management at the landscape level are closely connected to achieving successful ecological outcomes and therefore social processes needs explicit planning, support and resources.

2.1 Identify and support local leaders

Depending on the purpose and context, careful consideration is needed of who takes leading roles and how leadership can be supported and sustained over time.

2.2 Identify and secure human and financial resources

Landscape level adaptive management will require human and financial resources for the interventions but also for the processes of coordination or collaboration; and these resources may need to be long term if the collective action is needed for several years to ensure social and ecological outcomes.

2.Focus on the social processes of landscape level management (continued)

2.3 Understand the influence of national organisations

There is a need to understand how national organisational objectives and remits (even when not directly involved) may influence adaptive management processes.

2.4 Understand the influence of indirect stakeholders

In addition to identifying and working with direct stakeholders (1.2) and national organisations (2.3), it is important to take account of indirect stakeholders, including public opinion, and how these can influence the appetite for and success of adaptive management.

2.5 Understand the role of collaborative data collection and knowledge sharing

Whilst collaborative data collection is important, a landscape level adaptive management process need to consider how data will be used, and by whom for what purpose. Improving how knowledge is generated, collectively interpreted and shared is likely to improve the adaptive management processes.

3. Plan for social and ecological outcomes at every step

As learning takes place across every step of the adaptive management cycle, it is important to monitor the whole socio-ecological system, analyse and reflect on learning throughout the learning cycle and not just wait until there are ecological outcomes to assess.

3.1 Think and plan for long-term interventions and their legacies

Supporting landscape level management needs to recognise the long-term nature of the management actions and their legacies, and plan for long-term interventions even when funding is short-term. Thinking long-term should not preclude regular reviews of purpose and process.

3.2 Distinguish between coordination and collaboration

It is important not to conflate landscape level interventions with collaboration; but to recognise when adaptive management occurs through coordination and when it is collaboration and support accordingly.

3.3 Recognise what has or may change as part of the learning process

Ensure that all changes, whether positive or negative, intended or unintended, are captured and learnt from. Any learning also needs to recognise when changes have not or will not occur in the current circumstances.

Conclusions

- 1) when supporting or implementing landscape level management changes for ecological, economic and social outcomes then careful understanding of the context, participants and purpose is needed before moving to the next step of planning activities;
- 2) adaptive management to deal with uncertainty in socio-ecological systems is pertinent to cases across a wide range of Scottish landscape level issues, and the main barriers to adaptive management tend to be socio-economic rather than a lack of scientific knowledge;
- 3) learning takes place across every step of the adaptive management cycle and you should not just wait until there are ecological outcomes to assess; and
- 4) social processes are at the heart of effective and efficient landscape level management.



the role of the local authority in managing the landscape at the local level

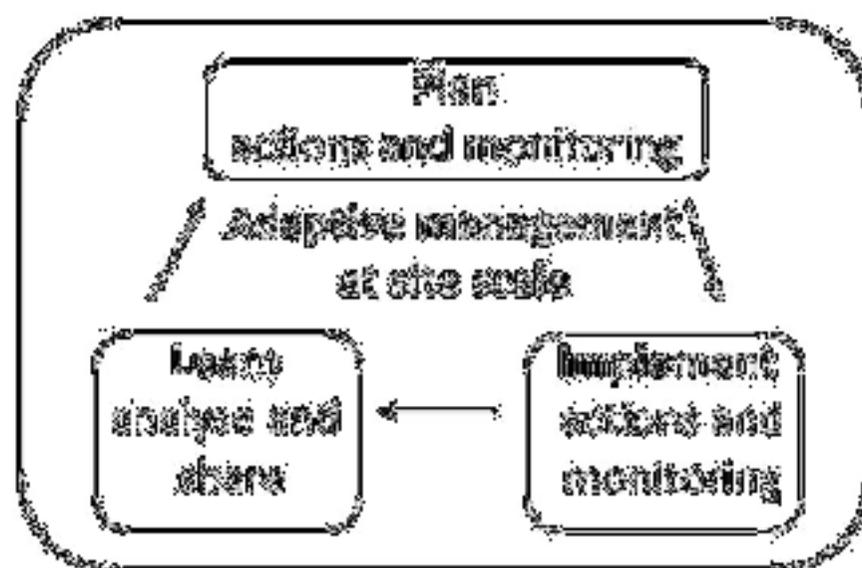
Adaptive management at landscape scale

Develop a clear vision of landscape at each step

Work with the local authority, with the local community and other groups to
develop a clear vision of the landscape
Identify and understand the direct stakeholders - individuals, organisations
Identify and agree the shared objectives

Focus on the local perception
of landscape at
landscape level

Key objectives:
Identify and support local
interests
Identify and secure human
and natural resources
Establish the influence of
national organisations
at landscape level
Identify and support
local interests
Identify and support
local interests
Identify and support
local interests



Plan for the local and
national objectives of
each step
Think and plan for steps
Local interests and
their objectives
Things that influence
management
Remember what has worked
during the past of the
learning process

Steps

Kirsty and I will go through some of our recommendations.

Show of hands: do you agree, neither agree or disagree, or do you disagree?

Please think about what maybe missing from our cases/data and what you may have expected.

We will share a short (24 pages) research briefing and we welcome further feedback.



Contact: antonia.eastwood@ (CC&ECMP), graham.begg@ (Balruddery), andy.vinten@ (Lunan), petra.lackova@ (WTE) or kit.macleod@hutton.ac.uk (recommendations).

This research is funded by the Rural & Environmental Sciences & Analytical Services Division of the Scottish Government. We are grateful for the contributions from the RESAS funded cases and stakeholders.

