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Land Use Strategy (LUS) Delivery Evaluation Project: Final Report

Volume 1: Main Report

Environment

**LAND USE STRATEGY (LUS) DELIVERY
EVALUATION PROJECT
FINAL REPORT**

VOLUME1: MAIN REPORT

Collingwood Environmental Planning Ltd

**in partnership with the University of Strathclyde
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**Scottish Government Social Research
2014**

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LIST OF ACRONYMS

CAP	Common Agricultural Policy
CALL	Coigach-Assynt Living Landscape
CBD	Convention on Biological Diversity
CSGN	Central Scotland Green Network
DCP	Dee Catchment Partnership
EA	Environmental Assessment
EclA	Ecological Impact Assessment
EIA	Environmental Impact Assessment
FCS	Forestry Commission Scotland
FRM	Flood Risk Management
FWS	Forestry and Woodland Strategy
GCC	Glasgow City Council
GCVSDP	Glasgow and Clyde Valley Strategic Development Plan
GIS	Geographic Information System
HLF	Heritage Lottery Fund
HRA	Habitat Regulations Assessment
IGI	Integrated Green Infrastructure
IHN	Integrated Habitat Network
IPA	Individual Partner Agreement
LBAP	Local Biodiversity Action Plan
LCA	Land Capability for Agriculture
LCT	Landscape Character Types
LDP	Local Development Plan
LFA	Less Favoured Area
LFASS	Less Favoured Area Support Scheme
LLTNP	Loch Lomond and the Trossachs National Park
LVIA	Landscape and Visual Impact Assessment

LUF	Land Use Framework
LUS	Land Use Strategy
MIR	Main Issues Report
NFM	Natural Flood Management
NHT	North Harris Trust
NPF	National Planning Framework
NPPP	National Park Partnership Plan
PPS	Plan, Programme or Strategy
RAG	Research Advisory Group
RBMP	River Basin Management Plan
RESAS	Rural and Environment Science and Analytical Services (Scottish Government)
RTRP	Right Tree Right Place
SCIO	Scottish Charitable Incorporated Organisation
SEA	Strategic Environmental Assessment
SEPA	Scottish Environment Protection Agency
SNH	Scottish Natural Heritage
SPP	Scottish Planning Policy
SRDP	Scotland Rural Development Programme
SWT	Scottish Wildlife Trust
UNESCO	United Nations Educational Scientific and Cultural Organisation
VDL	Vacant and Derelict Land
WFD	Water Framework Directive
WEDP	Whole Estate Development Plan
WES	Wildlife Estates Scotland

1 INTRODUCTION

Aims and objectives of the LUS Delivery Evaluation Project

- 1.1 The Scottish Government has set the overall aim of this project to undertake the Land Use Strategy (LUS) delivery evaluation as: *“to evaluate the range of current land use delivery mechanisms, to ascertain their effectiveness in translating the strategic Principles of the Land Use Strategy into decision-making on the ground”*.
- 1.2 The objectives are:
- To assess each process/approach in terms of how well it is able (implicitly or explicitly) to translate the high level LUS objectives into decision making on the ground
 - To identify where and how the Principles of the LUS are successfully being applied; to investigate why methods are working well and identify successful aspects which might be applied more generally across Scotland in a range of different circumstances
 - To identify any barriers to the application of the LUS Principles, why this is the case and what lessons can be learned for more general application across Scotland
 - To use the evidence gathered across the range of projects to highlight emerging themes on how best to apply the Principles for Sustainable Land Use to different circumstances and processes across Scotland. Where possible this should focus on messages that will be useful in specific circumstances, and for a range of groups of decision makers and stakeholders
- 1.3 Early on in the project the research team used the above aims and objectives for the evaluation as a starting point from which research questions for the project were formulated. These include five headline research questions and a suite of more detailed sub-research questions. The full suite of research questions is detailed in Chapter 2 at Table 2.2.

Purpose and contents of this Final Report

- 1.4 This is the Final Report to the Land Use Strategy (LUS) Delivery Evaluation Project. It is intended to provide a comprehensive report of the project's main findings as well as details of the methodological approach adopted.
- 1.5 This Final Report is structured as follows:
- **Chapter 1: Introduction.** This Chapter introduces the LUS and the aims, objectives and questions addressed by this research project including an indication of the land use policy choices that this project may influence. It also outlines the wider context in terms of the existing land use delivery 'landscape' in Scotland.

- **Chapter 2: Methodology.** This Chapter describes the methodology adopted for the project including details of the evaluation framework and the Research Questions considered.
- **Chapter 3: Translating the LUS Principles into action on the ground.** This Chapter outlines the findings against Research Question No.1 which considers the degree to which the high level LUS Principles have been translated into decision-making on the ground. The Chapter includes an overall summary as well as case study specific summaries – the detailed Research Question No.1 evaluation tables are provided in Appendix 4.
- **Chapter 4: Situations in which the LUS Principles have been successfully applied.** This Chapter outlines the findings against Research Question No.2 which looks at factors relating to situation and context and how this can influence consideration of the LUS Principles in decision-making.
- **Chapter 5: Methods and approaches used to apply the LUS Principles.** This Chapter outlines the findings against Research Question No.3 which considers how different methods and approaches can aid consideration of the LUS Principles in decision-making. The analysis considers methods/approaches that are working well and less well and which LUS Principles specific methods can support.
- **Chapter 6: Barriers to the application of the LUS Principles.** This Chapter outlines the findings against Research Question No.4 which considers what the main barriers are to the application of the LUS Principles. The analysis has grouped the barriers into distinct categories.
- **Chapter 7: Conclusions, key findings and lessons for wider application.** This Chapter presents the overall conclusions to the LUS Delivery Evaluation Project including emerging themes on how best to apply the LUS Principles and lessons for particular circumstances, contexts and stakeholders.

Introduction to Scotland's Land Use Strategy

- 1.6 Scotland's first Land Use Strategy¹ (LUS) was published in March 2011. The development of the LUS was a requirement of the Climate Change (Scotland) Act² (2009), highlighting the important contribution that the Scottish Ministers expect land use and land management to make towards the climate change agenda in Scotland.

¹ Scottish Government (2011a) Getting the best from our land – a land use strategy for Scotland: <http://www.scotland.gov.uk/Topics/Environment/Countryside/Landusestrategy> [accessed 07/03/14]

² Scottish Government Climate Change (Scotland) Act 2009 pages: <http://www.scotland.gov.uk/Topics/Environment/climatechange/scotlands-action/climatechangeact> [accessed 07/03/14]

- 1.7 Another key driver for the LUS is the widespread consensus that Scotland's land is not performing as best as it could. Set against a backdrop of continued, increasing and sometimes competing demands on land for the provision of ecosystem services – from the production of energy, food, fibre and timber to flood risk management, maintenance of water resources, climate regulation and tourism – there is arguably a clear need for new approaches to land use and land management that can better deliver the multiple benefits that we are increasingly requiring the land to provide.
- 1.8 The LUS is a direct response to these issues. It sets out a strategic agenda for sustainable land use in Scotland based around a long term vision towards 2050 which would see: *“A Scotland where we fully recognise, understand and value the importance of our land resources, and where our plans and decisions about land use deliver improved and enduring benefits, enhancing the wellbeing of our nation”* (Scottish Government, 2011a p.3).
- 1.9 This vision is underpinned by three objectives for sustainable land use relating to economic prosperity, environmental quality and communities. The objectives are included in Table 1.1. The LUS represents the Scottish Government's high level statement of policy on land use and all public bodies are expected to have regard to it as they carry out their functions.

Table 1.1 Land Use Strategy objectives and Principles for sustainable land use

LUS Objectives	
▪	Land based businesses working with nature to contribute more to Scotland's prosperity
▪	Responsible stewardship of Scotland's natural resources delivering more benefits to Scotland's people
▪	Urban and rural communities better connected to the land, with more people enjoying the land and positively influencing land use
LUS Principles	
A.	Opportunities for land use to deliver multiple benefits should be encouraged
B.	Regulation should continue to protect essential public interests whilst placing as light a burden on businesses as is consistent with achieving its purpose. Incentives should be efficient and cost-effective
C.	Where land is highly suitable for a primary use (for example food production, flood management, water catchment management and carbon storage) this value should be recognised in decision-making
D.	Land use decisions should be informed by an understanding of the functioning of the ecosystems which they affect in order to maintain the benefits of the ecosystem services which they provide
E.	Landscape change should be managed positively and sympathetically, considering the implications of change at a scale appropriate to the landscape in question, given that all Scotland's landscapes are important to our sense of identity and to our individual and social wellbeing
F.	Land-use decisions should be informed by an understanding of the opportunities and threats brought about by the changing climate . Greenhouse gas emissions associated with land use should be reduced and land should continue to contribute to delivering climate change adaptation and mitigation objectives

- G. Where land has ceased to fulfil a useful function because it is **derelict or vacant**, this represents a significant loss of economic potential and amenity for the community concerned. It should be a priority to examine options for restoring all such land to economic, social or environmentally productive uses
- H. **Outdoor recreation** opportunities and public access to land should be encouraged, along with the provision of accessible green space close to where people live, given their importance for health and well-being
- I. People should have opportunities to **contribute to debates and decisions** about land use and management decisions which affect their lives and their future
- J. Opportunities to broaden our understanding of the **links between land use and daily living** should be encouraged

- The emphasis in the table above has been added by the research team
- The LUS Principle emphasis is used to abbreviate the LUS Principles elsewhere in this report

- 1.10 The strategy's vision and objectives are supported by ten principles for sustainable land use (the LUS Principles). The Scottish Government anticipate that the LUS Principles will help guide all those involved in planning the future use and management of land. The LUS Principles are included at Table 1.1.
- 1.11 The ten LUS Principles are the key mechanism by which the strategic intent of the national level LUS can be translated into regional and local level planning and decision-making and, ultimately, practical action that 'breaks ground' and that has a tangible land use/management impact within the landscape.
- 1.12 The Scottish Government recognise that the LUS is only the first stage in a wider process of change, providing a focal point around which land use stakeholders can agree the role of Scotland's land resource in contributing to the Scottish Government's primary objective of sustainable economic growth. The LUS is required to be revised every five years – the next revision will be in 2016.
- 1.13 The Scottish Government anticipate that the LUS Delivery Evaluation Project will inform the first review of the LUS in 2016. The findings of this research, as set out in this Final Report, outline the degree to which a sample of existing land use delivery mechanisms are able, implicitly or explicitly, to translate the strategic LUS Principles into action on the ground, as well as any lessons for wider application within Scotland.
- 1.14 This research is drawing on eleven existing land use delivery mechanisms that may be able to help deliver the LUS. Examples of the wider land use delivery 'landscape' in Scotland are outlined further in the sub-section below from paragraph 1.19 onwards.
- 1.15 In addition to the LUS Delivery Evaluation Project, the Scottish Government is also supporting two regional land use framework (LUF) pilots – one hosted by

Aberdeenshire Council and one by Scottish Borders Council³. The LUFs pilots commenced in April 2013 and are investigating a new, integrated regional mechanism for land use planning, designed to bridge the gap between the high level LUS Principles and delivery on the ground at more local levels.

- 1.16 The regional LUFs represent a potentially new mechanism or approach for delivering the sustainable land use outcomes that the LUS requires. The LUFs will also be evaluated to better understand the appropriateness of more detailed land use planning at the regional scale.
- 1.17 The Scottish Government will draw on a range of evidence to inform the first review of the LUS in 2016. Although the LUS evaluation will not make policy recommendations *per se*, it and other related research (e.g. the regional LUF pilots and their forthcoming evaluation) will inform the Scottish Government's decision-making at the time of the LUS review.
- 1.18 It may be the case for example that the Scottish Government are content with the performance of the existing land use delivery mechanisms. Conversely, the Government may decide that a new approach is required (such as regional LUFs as per the Aberdeenshire and Scottish Borders pilots, regionally focussed sustainable land use principles based on the national level LUS Principles, regional guidance/priorities etc) to ensure that the LUS is able to deliver against its objectives for sustainable land use.

The existing land use delivery 'landscape' in Scotland

- 1.19 There is a range of existing legislation, regulation, licensing, policy, plans guidance etc in Scotland that combine to provide a potential mechanism for delivery of the LUS and delivery of land use more generally. The 'delivery of land use' in this regard includes land use and land management planning and the delivery of practical land management action on the ground. These activities are summarised henceforth in this report as 'land use/management'. The core premise of this research is to take a case study sample of these existing land use delivery mechanisms and evaluate the degree to which they are able to translate the high level LUS Principles into action on the ground. Some key examples from the existing land use delivery landscape in Scotland (over and above the LUS itself) are provided at Table 1.2.
- 1.20 This research has considered eleven case study land use delivery mechanisms spanning a range of spatial scales, contexts, sources of funding, tenures etc. Further information on the case studies is provided in Chapter 2 at paragraph 2.21. Chapter 7 explores the potential wider relevance of this research in terms of the eleven case studies considered and their relationship with the extant land use delivery 'landscape' in Scotland detailed at Table 1.2.

³ Scottish Government Regional Land Use Framework (LUF) pilot pages: <http://www.scotland.gov.uk/Topics/Environment/Countryside/Landusestrategy/regional> [accessed 07/03/14]

Table 1.2 Examples of the existing land use delivery ‘landscape’ in Scotland

Existing land use delivery mechanism	Type of mechanism	Scale	Sector
National Planning Framework	Statutory development planning policy	National	Cross-cutting/spatial planning
Scottish Planning Policy	Statutory development planning policy	National	Cross-cutting/spatial planning
Strategic Development Plans	Statutory development planning policy	Sub-national/ regional	Cross-cutting/spatial planning
Local Development Plans	Statutory development planning policy	Regional/local	Cross-cutting/spatial planning
Planning Advice Note: PAN 65 Planning and Open Space	Guidance	National level guidance but applicable to all scales	Cross-cutting/natural environment/green infrastructure
Scottish Government Guidance on Green Infrastructure: Design and Place-making	Guidance	Applicable to all scales – particularly regional/local	Cross-cutting/natural environment/green infrastructure
Applying an ecosystems approach to land use: Information Note	Guidance	Applicable to all scales	Cross-cutting/natural environment
Making the most of communities’ natural assets: green infrastructure	Guidance	Particularly applicable at the local level	Cross-cutting/natural environment/green infrastructure
Scotland Rural Development Programme	Funding mechanism	National level programme delivering funding at various scales, especially the local level	Rural development/ agriculture/forestry/ landscape/ conservation management
Recipe For Success - Scotland's National Food and Drink Policy	Policy	National	Economy/rural development/ agriculture/tourism
Forestry Act 1967	Primary legislation	Potentially applicable to all scales	Forestry
Forestry Commission Scotland - policy on control of woodland removal	Policy	National	Forestry
The Right Tree in the Right Place - Planning for Forestry and Woodland	Guidance	Regional/local	Forestry
Achieving diversity in Scotland's forest landscapes	Guidance	Regional/local	Forestry
National Park Plans	Policy	Regional	Cross-cutting
Wildlife and Countryside Act 1981	Primary legislation	Potentially applicable to all scales	Nature conservation
Nature Conservation (Scotland) Act 2004	Primary legislation	Potentially applicable to all scales	Nature conservation
Wildlife and Natural Environment (Scotland) Act 2011	Primary legislation	Potentially applicable to all scales	Nature and landscape conservation and

Existing land use delivery mechanism	Type of mechanism	Scale	Sector
			management
River Basin Management Plans	Statutory water environment policy	National/regional (river basin)	Integrated water catchment management
RBMP Area Advisory Groups and Area Management Plans	Statutory water environment policy	Regional/local (catchment)	Integrated water catchment management
Water Environment (Controlled Activities) (Scotland) Regulations (2011)	Licensing regime	Applicable to all scales	Water management
Flood Risk Management Plans	Statutory flood risk management policy	Regional/local (catchment)	Integrated flood risk management
Surface Water Management Planning Guidance	Guidance	Regional/local (primarily urban)	Integrated flood risk management
Delivering Sustainable Flood Risk Management Guidance	Guidance	Regional/local (catchment)	Integrated flood risk management
Scotland's Climate Change Adaptation Framework	Strategy/guidance	National/regional/local	Cross-cutting/ climate change

2 METHODOLOGY

- 2.1 The LUS Delivery Evaluation Project is intended to provide an independent and informed observation of what has actually happened as a result of implementing the LUS to date. This type of policy evaluation observes what has actually happened or is happening following the implementation of a policy (rather than what was expected or intended) and is a crucial part of the policy cycle.

The overall approach

- 2.2 The overall approach to the LUS Delivery Evaluation Project is illustrated at Figure 2.1. The evaluation is centred on eleven case study land use delivery mechanisms. These case studies have been engaged throughout the course of the project (April 2012 – April 2014) to develop an understanding of their relationship with the LUS.
- 2.3 The evaluation framework (depicted on the centre of Figure 2.1) has informed all other aspects of the project including the specific research methods used and the data collection strategy. In particular, the five broad Research Questions set the framework for all subsequent research tasks i.e. all data collection and analysis has been designed to answer these questions. The Research Questions (see Table 2.2) are based on the Scottish Government's objectives for the project which are detailed in Chapter 1 at paragraph 1.2.

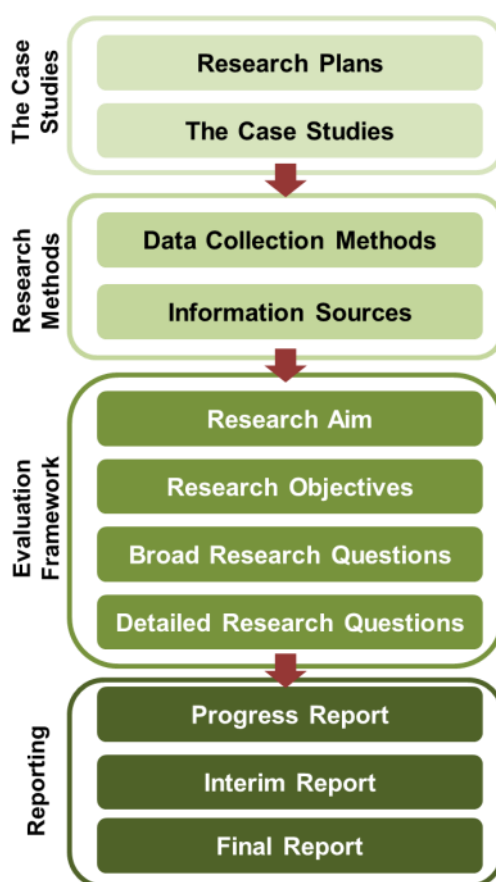


Figure 2.1 LUS Delivery Evaluation Project – overall research approach

Research strategy

- 2.4 The LUS Delivery Evaluation Project commenced in April 2012 and completed in April 2014. A structured research strategy was put in place early on to ensure that interaction with case studies and data gathering activities could be carried out in a timely manner, providing evidence to inform the Research Questions (see Figure 2.2). This was supported by case study specific research plans which are discussed later on in Chapter 2 at paragraph 2.25.

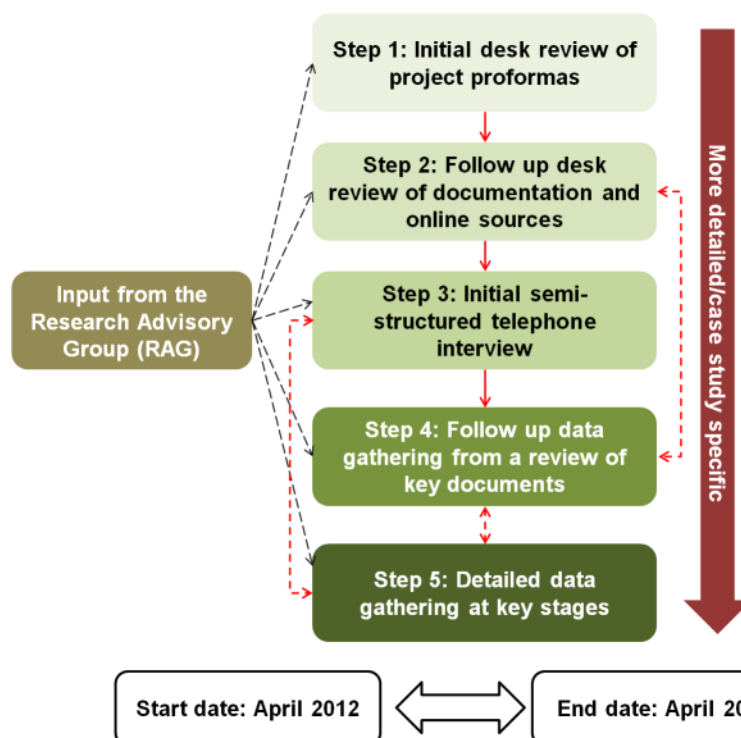


Figure 2.2 LUS Delivery Evaluation Project – research step interactions

- Interaction between research steps is indicated by the red arrows
- Dashed arrows indicate iteration between steps – significant iteration took place between step 4 and 5
- Input from the Research Advisory Group (RAG) was, in effect, provided throughout the project
- As discussed at Table 2.1, the 'key stages' at Step 5 were case study specific

- 2.5 As shown at Table 2.1, the research was split into five main steps. Early steps were generic and undertaken consecutively whereas later steps were iterative and case study specific. The interaction between the five main steps of the project is depicted on Figure 2.2. In effect, data gathering activities became increasingly refined as the project progressed to the later stages, recognising the diversity of the eleven case studies and the specific focus in each case. The scope and focus of each case study is outlined later on in Chapter 2 at paragraph 2.28 onwards and at Table 2.4.

- 2.6 The steps and tasks detailed in Table 2.1 clearly show how the research strategy was designed to inform the response to the five broad Research Questions. The approach to steps 4 and 5, for example, was targeted to capture data on relevance and translation of the LUS Principles as well as opportunities/successes and challenges/barriers. As detailed at Table 2.2, this equates to broad Research Questions Nos. 1, 3 and 4.

2.7 The project was coordinated by a Research Advisory Group (RAG) with overall project management provided by the Scottish Government Rural and Environment Science and Analytical Services (RESAS) Division. In addition to Scottish Government RESAS, the RAG comprised representatives from other Scottish Government Divisions (including Land Use and Biodiversity; Natural Assets and Flooding; Planning and Architecture), Forestry Commission Scotland (FCS), Scottish Environment Protection Agency (SEPA), Scottish Natural Heritage (SNH) and Historic Scotland. As illustrated on Figure 2.2 the RAG provided input to the project at all key stages. This included three physical meetings between the RAG and the research team as follows: 1) project inception meeting in April 2012; 2) Interim Report meeting (combined with case study workshop – see paragraph 2.15) in June 2013; and 3) project progress meeting in January 2014.

Table 2.1 Summary of key research and data gathering steps

Step	Purpose	Task/key information to gather
1. Initial desk review of the project proformas	To acquire basic information and understanding about each case study	<p>Task: Undertake a review of the project proformas supplied to the Scottish Government by each case study to develop an initial understanding of each case study's scope and timeline for key stages.</p> <p>Information being gathered:</p> <ul style="list-style-type: none"> ▪ Project/initiative title ▪ Operational contact ▪ Project partners ▪ Summary of the scheme ▪ Key dates and timings ▪ Geographical coverage ▪ Key documents ▪
2. Follow up desk review of documentation and online resources	To supplement the basic information and understanding about each of the case studies in the proformas as necessary	<p>Task: Undertake follow up desk review of documentation and online resources to supplement information in the proformas as necessary.</p> <p>Information being gathered:</p> <ul style="list-style-type: none"> ▪ As for step 1
3. Initial semi-structured telephone interview	To make direct contact with the case study representatives, address any queries they have, supplement the basic case study information, explore potential scope/focus for the evaluation and gain an initial understanding of the case study's awareness of the LUS and the LUS Principles	<p>Task: Undertake initial semi-structured telephone interview with case study lead contacts to introduce ourselves, the project, supplement the information on the project from steps 1 - 2 above, discuss the potential scope that the evaluation will focus on and gauge an initial understanding of the awareness of the LUS and the Principles.</p> <p>Information being gathered:</p> <ul style="list-style-type: none"> ▪ Any gaps/queries etc identified at steps 1 and 2 ▪ Clarify the appropriate scope of the case study ▪ Understanding how to involve them, any issues, practicalities etc (especially with multi organisation partnerships etc) ▪ Other key contacts for the case study and understanding the governance arrangements ▪ Gauge an initial understanding of the case study's awareness of the LUS generally and the LUS Principles in particular and how they may be being applied already

Step	Purpose	Task/key information to gather
4. Follow up data gathering from a review of key documents	To develop a fuller understanding of each project's existing use of/reference to the LUS and its Principles (implicitly or explicitly) and the potential relevance of the LUS and its Principles as demonstrated through key documentation and online material	<p>Task: Undertake a review of key document(s) and online information about each case study to supplement the information obtained via the initial semi-structured telephone interview. Record any points for clarification or key assumptions made so that these can be explored in more detail during the subsequent data gathering steps (such as additional semi-structured interviews).</p> <p>Information being gathered:</p> <ul style="list-style-type: none"> Any gaps/queries etc identified at steps 1 – 3 Explicit reference to the LUS Principles (if document published post LUS) Coverage and relevance of the individual LUS Principles Any challenges or barriers and opportunities or successes already apparent in translating the LUS Principles into the case study's decision-making and actions on the ground Other comments or observations relevant to other evaluation stages
5. Detailed data gathering at key stages relevant to each case study	To gather additional information from the case studies as necessary to inform the headline evaluation questions, including the deliverability of each LUS Principle in terms of both process and outcome	<p>Task: At key stages for each case study during the course of the evaluation, gather data using a variety of methods (e.g. semi-structured telephone and face-to-face interviews, document review etc). This involved a variety of those involved in the case study, e.g. the project lead, members of a steering group/board/partnership, wider stakeholders with an interest in the project. Identify possible examples/illustrations of LUS Principle consideration in practice.</p> <p>Information being gathered:</p> <ul style="list-style-type: none"> Relevance and translation of the individual LUS Principles Opportunities or successes in translating the LUS Principles into the project's decision-making and actions on the ground - the situations and how they have been successfully applied and methods that work well Challenges or barriers in translating the LUS Principles into the project's decision-making and actions on the ground - the situations and how they have been difficult to apply and methods that work less well

2.8 In following the research strategy outlined at Table 2.1 and depicted on Figure 2.2 the research produced a wealth of qualitative data. Drawing on the evaluation framework, the subsequent analysis of this data informed a reasoned, structured and evidenced response to each of the five broad Research Questions. The approach taken to the analysis is Research Question specific. A short description of the analysis approach is provided in each of the results Chapters (i.e. Chapters 3 – 6).

Research methods

2.9 Table 2.1 outlines the research strategy followed in the LUS Delivery Evaluation Project. Data collection employed two main research methods: 1) document review; and 2) semi-structured interviews. This was supported by a case study workshop, based on the findings of the Interim Report, which was held in June 2013.

- 2.10 The main objective of the **document review** was to identify the stated aims, objectives, policies, approach etc of each case study in relation to land use/management. This information directly informed the five broad Research Questions (e.g. how and where are LUS Principles or LUS Principle type issues being considered? Is there evidence of specific methods being used successfully?) as well as highlighting specific issues that were then explored in more detail through the semi-structured interviews.
- 2.11 The methodological approach adopted was variable depending on the purpose of reviewing a specific document. For example the follow-up desk review of documentation at step 2 (see Table 2.1) used a proforma with standard questions that were imposed on the documents. Questions included:
- Does the source explicitly refer to the LUS?
 - Does the source explicitly refer to the Principles included in the LUS?
 - From reviewing the source, in summary, which of the LUS Principles are likely to be relevant and not so relevant to the case study and why?
- 2.12 Conversely, the more detailed review of documentation undertaken at step 4 used a criteria based approach to help identify documented evidence of LUS Principles (either explicitly or implicitly) being considered/translated, in terms of process and outcome issues. This task directly informed Research Question No.1 on translation of the LUS Principles into action 'on the ground' (see Table 2.2) and used bespoke criteria designed to help the research team identify where LUS Principles were being considered/translated (see Appendix 1).
- 2.13 The main objective of the **semi-structured interviews** was to capture diverse qualitative data to inform the detailed response to each of the five broad Research Questions. As with the document review, the specific methodological approach adopted in each interview was variable. For example, the initial interviews undertaken at step 3 used a generic interview schedule for each case study. Key points considered included:
- Discussion around the proposed scope/focus for the evaluation of that case study
 - Discussion around the relevance of each LUS Principle to the case study and any perceived or actual barriers to its translation and any existing methods or examples of good-practice for translating the Principle into action on the ground
 - Case study specific questions based on the initial document review
- 2.14 Earlier interviews (step 3 on Figure 2.2) were recorded due to their more general/open-ended nature. These interviews produced large amounts of general data which was then utilised at various stages throughout the project (e.g. informing more detailed interviews in step 5). As such, a detailed, comprehensive record of these interviews was required. Later interviews undertaken in step 5 were much more focussed (generally only taking 20-30 minutes) and a written record was sufficient. All interviews were undertaken in

confidence and no personal quotation/attribution of interviewee comments has been used in this report⁴.

- 2.15 The **case study workshop** was held in June 2013. The objectives of the workshop are listed below. Further details of the approach and workshop outputs are provided in the Case Study Workshop Summary Report at Appendix 2. In particular, the outputs of the workshop played a key role informing the second half of the project in terms of scoping the data collation activities and evaluation focus. The case study workshop objectives were as follows:
- To provide an opportunity to share good practice between the case studies
 - To ground truth with the case studies the draft findings of the evaluation presented in the Interim Report
 - To explore in more depth with the case studies the opportunities and successes and/or barriers and challenges to translating and applying the LUS Principles on the ground

The evaluation framework

- 2.16 The evaluation framework comprises a suite of headline/sub Research Questions. These questions are based primarily on the research objectives set by the Scottish Government (see Chapter 1 paragraph 1.2) but they have also drawn on generally accepted good-practice in evaluation design such as the UK Treasury's Magenta Book (HM Treasury, 2011) which sets out the steps that should be followed when planning and designing an evaluation.
- 2.17 The questions have been designed to tease out an understanding of how the eleven case study land use delivery mechanisms are considering and translating the LUS Principles into action 'on the ground' (and therefore how they may be supporting the delivery of the LUS itself). The full suite of Research Questions is shown at Table 2.2.
- 2.18 The questions have also been designed to address a range of related issues to support a greater understanding of the potential appropriateness of using existing land use delivery mechanisms to deliver the LUS. This includes consideration of issues relating to context, characteristics, methods and approaches and barriers/constraints to applying the LUS Principles.
- 2.19 Where relevant, the Research Questions have been supported by specific methodological devices and tools. For example, bespoke evaluation criteria were developed to structure the data collection and analysis for Research Question No.1 (see Table 2.2). These criteria were designed to help the research team identify where the LUS Principles are being considered/translated in terms of process and outcome issues – i.e. where the LUS Principles are being translated into decision-making 'on the ground'.

⁴ For the most part, material from interviews has been paraphrased as part of the general evidence base produced through the research (i.e. quotations have not been used). There are three direct quotes used to illustrate a specific point in Chapter 4. For these quotes, specific consent was sought from the interviewee for the quote and their name to be used in the report.

2.20 The wealth of qualitative data produced during the project (see Table 2.1 and Figure 2.2) provides the input to the evaluation framework. In essence, the evaluation framework provides the structure for the analysis of this data, informing the five broad Research Questions and meeting the overall aims and objectives of the project (see Chapter 1).

Table 2.2 LUS delivery evaluation Research Questions

Headline questions	Sub-questions
1. Have the high level LUS Principles been (implicitly or explicitly) translated into decision making on the ground? And if they have, how well?	<ul style="list-style-type: none"> • How relevant are the LUS Principles to the case study? • Is there evidence that the case study has integrated the LUS Principles into their decision-making on the ground? • How effective has the case study been in integrating the LUS Principles? • Where the case study commenced prior to publication of the LUS, can the influence of the LUS be distinguished/ separated out from the case study's previous sustainable land management practice and process?
2. In what situations and how have the LUS Principles been successfully applied?	<ul style="list-style-type: none"> • What are the key characteristics/context of the case study delivery mechanism? • What findings can be drawn from the situations where the LUS Principles have been successfully applied? • How have the case studies successfully applied the LUS Principles?
3. What methods and approaches are working well, and not so well, and why? What successful aspects might be applied more generally across Scotland in a range of different circumstances?	<ul style="list-style-type: none"> • What methods and approaches have the case studies used to apply the LUS Principles? • What methods and approaches can be identified from the case studies as working well, and not so well? • Can reasons be identified why particular methods and approaches from the case studies have worked well, and not so well? • From the experience of the individual case studies, are there successful aspects that might be applied more generally across Scotland in a range of different circumstances and if so what are these?
4. Are there any key barriers to the application of the LUS Principles? And if there are, what are the likely reasons and what lessons can be learned for more general application across Scotland?	<ul style="list-style-type: none"> • Can any key barriers to the application of the LUS Principles be identified from the experience of the case studies? • Where barriers have been identified from the case studies, what are the likely reasons and potential solutions? • What lessons can be learned from the barriers and how might these be applicable for more general application across Scotland (considering both similar and different delivery mechanisms, contexts etc) or are they more case study specific?
5. What are the emerging themes on how best to apply the LUS Principles to different circumstances and processes across Scotland? Are there any particular lessons for specific circumstances and different groups of decision makers and stakeholders?	<ul style="list-style-type: none"> • What are the emerging themes on how best to apply the LUS Principles? • Can these themes be applied to different circumstances and processes across Scotland? • Are there any particular lessons for specific circumstances (e.g. delivery mechanisms, contexts, etc) and different groups of decision makers and stakeholders?

The case studies

2.21 As mentioned at Chapter 1, the overall approach to the evaluation project is centred on eleven case study land use delivery mechanisms. The Scottish Government anticipate that the range of existing land use delivery mechanisms in Scotland (including the mechanisms illustrated by the eleven case studies considered in this research) will provide the means by which the LUS and the high level LUS Principles will be translated into practical land use/management decision-making on the ‘on the ground’.

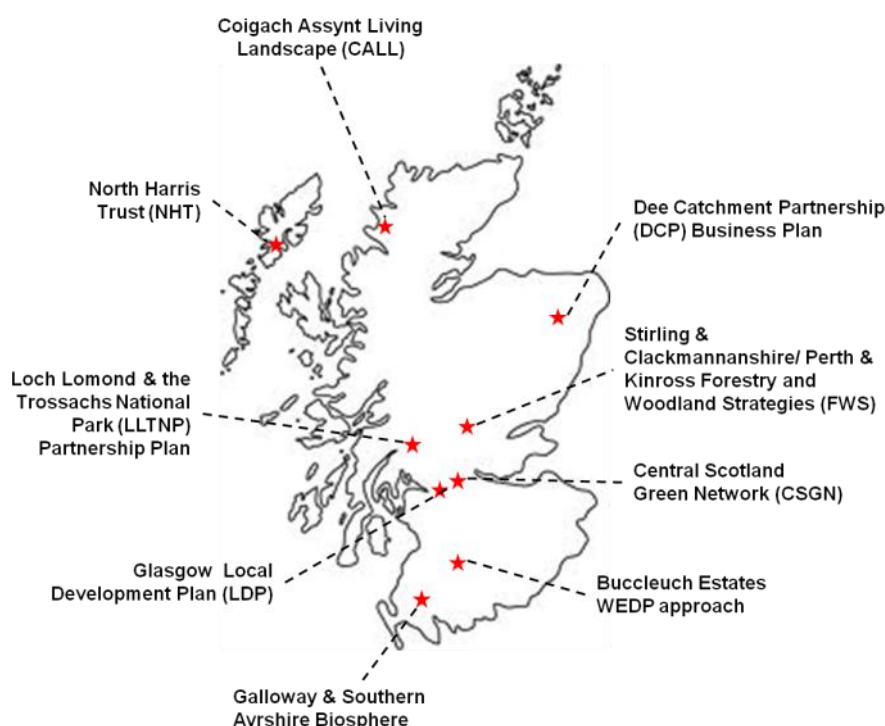


Figure 2.3 Approximate locations of case study land use delivery mechanisms






- The Figure above shows the approximate location of nine of the eleven LUS Delivery Evaluation Project case studies. The Figure depicts **approximate** centre points of the geographical areas encompassed by case studies. For example, the CSGN case study covers just under 10,000km² of Central Scotland stretching from Girvan in the southwest to Dunbar on the east⁵ (i.e. a significantly larger area than that implied by the point location shown on the Figure)
- The location of the Buccleuch Estates case study indicated on the map above is the approximate location of the Queensberry Estate. The Buccleuch Group own three estates⁶ in Scotland though this research has focussed in particular on the Queensberry Estate and the application of the Buccleuch Group’s Whole Estate Development Plan (WEDP) approach therein
- The Monitor Farms and Wildlife Estates Scotland (WES) case studies are not indicated on the Figure above as they are national programmes. In essence, the geographic location of these case studies (i.e. a farm or estate) could be anywhere in Scotland
- The Forestry and Woodland Strategy (FWS) case study comprises two separate FWS – one for Stirling and Clackmannanshire and one for Perth and Kinross. At this scale and using approximate centre points to highlight case study location, both FWS are in **broadly** the same location hence why only one point is used

⁵ A map showing the actual spatial extent of the CSGN region can be found on the CSGN projects page: <http://www.centralscotlandgreennetwork.org/delivering/project-map> [accessed 24/03/14]







⁶ Details of Buccleuch Estates land holdings in Scotland and England: <http://www.buccleuch.com/story/estates> [accessed 24/03/14]

- 2.22 This process is the Scottish Government's preferred mechanism by which the LUS itself will be delivered. This approach is set out in Section 5.4 of the LUS which describes how the Strategy will not introduce new layers of complexity or bureaucracy.
- 2.23 In this regard, the eleven case studies are the vehicle for evaluating the implementation of the LUS, with respect to the various Research Questions detailed at Table 2.2. The eleven case study land use delivery mechanisms are introduced in Table 2.3 and a map showing their approximate location is provided at Figure 2.3. Further details of the scope/focus of the evaluation for each case study are provided at the end of this Chapter.

Table 2.3 Details of the LUS Delivery Evaluation Project case studies

Case study		Summary details
	Buccleuch Estates The Whole Estate Development Plan (WEDP)	The WEDP approach is a Geographic Information System (GIS) led spatial land use/management prioritisation tool that has been developed by Buccleuch Estates
	Central Scotland Green Network (CSGN)	The CSGN is a regional initiative intended to change the face of Central Scotland by restoring and transforming the landscape. The lead partners ⁷ – Forestry Commission Scotland (FCS) and Scottish Natural Heritage (SNH) – have been able to identify from within their own budgets up to £1M/year to support land use/management projects that will help to deliver the CSGN on the ground. The CSGN is also a national development within the National Planning Framework (NPF)
	Coigach Assynt Living Landscape (CALL)	The Coigach – Assynt Living Landscape (CALL) is one of the largest landscape restoration projects in Europe, aiming to benefit the land, the people and the local economy in the north west of Scotland. The CALL Partnership have also recently been successful in a Stage 1 bid to the Heritage Lottery Fund (HLF) Landscape Partnership programme
	Dee Catchment Partnership Business Plan	The Dee Catchment Partnership is an independent association of agencies, organisations and individuals that work together to deliver improved water management in the Dee catchment in Aberdeenshire. The work of the Partnership is coordinated through a Business Plan that sets out priorities for action
	Glasgow City Council Local Development Plan (LDP)	Glasgow City Council is in the process of developing its statutory Local Development Plan (LDP) as per the requirements of the Planning etc (Scotland) Act (2006). This has involved the undertaking of Strategic Environmental Assessment (SEA) and extensive public and stakeholder consultation

⁷ The structure of the CSGN in terms of lead partners and governance changed radically at the end of 2013 when FCS and SNH began handing over control to a new Programme Committee and at the end of March 2014 when the CSGN became the Central Scotland Green Network Trust – the CSGNT. The CSGNT in its new guise (e.g. in terms of new governance structures) has not been considered in this research. Further information on the CSGNT can be found at: <http://www.centralscotlandgreennetwork.org/about/csgnt> [accessed 01/05/14]

Case study		Summary details
	Forestry and Woodland Strategies (FWS) Perth and Kinross and Stirling and Clackmannanshire	Perth and Kinross Council and Stirling and Clackmannanshire Councils working in partnership are in the process of developing Forestry and Woodland Strategies (FWS) in line with the Forestry Commission Scotland's (FCS) The Right Tree in the Right Place Guidance. This has involved the undertaking of SEA and Habitat Regulations Assessment (HRA)
	Loch Lomond and the Trossachs National Park (LLTNP) National Park Partnership Plan (NPPP)	The NPPP sets out the overall partnership approach to managing the Loch Lomond and Trossachs National Park based on the park's special qualities, challenges and opportunities. One of the mechanisms being used to deliver the NPPP are Individual Partner Agreements (IPAs) which set out the specific actions key partners will deliver over the next five years
	Monitor Farms Programme	The Monitor Farms programme is a facilitated forum to share ideas among livestock farmers across Scotland. The programme has a focus on production but can also incorporate wider land use/management issues as appropriate (e.g. agri-environment scheme opportunities etc)
	North Harris Trust (NHT)	NHT (comprising ten locally elected directors and a representative of the John Muir Trust) manages 25,000ha of North Harris on behalf of the community who purchased the land through a community buyout in 2003. The aims of the Trust are to increase employment opportunities, address local housing needs and protect and enhance North Harris' cultural and natural heritage
	Galloway and Southern Ayrshire Biosphere	The Galloway and Southern Ayrshire Biosphere is a UNESCO Biosphere – places with world-class environments that are designated by the United Nations to enhance the relationship between conservation and development by innovating and demonstrating approaches to sustainable development at a regional or ecosystem scale, so that people and nature are in a better more productive balance
	Wildlife Estates Scotland (WES) Initiative	The WES Initiative is an accreditation system that seeks to promote best practice in game and wildlife management and to improve the evidence base for species and habitats across Scotland

2.24 As far as possible, the eleven case studies have been selected to capture a broad cross-section of land use delivery mechanisms from the extant land use delivery 'landscape' in Scotland (see Table 1.2 in Chapter 1). To this end, the Scottish Government and the RAG (see paragraph 2.7) drew up a long list of potential case study land use delivery mechanisms before the project commenced. From the long list, a short list was then identified on the basis of selection criteria. The criteria were:

- Coverage of LUS Principles (both within and across the whole set of case studies)

- Location/geographical spread – recognising the need for the case studies to come from a variety of different land use/management contexts
- Sector – recognising the need for case studies to capture a range of different perspectives and sectors. Some case studies should be quite focussed in this regard while others should cover multiple sectors/interests
- Scale – e.g. from the farm/holding scale up to regional scale initiatives

2.25 The analysis at Chapter 4 (see Table 4.1 in particular) highlights the diversity of the eleven case studies that were eventually taken forward for consideration in the LUS Delivery Evaluation Project. The potential wider relevance of this research (including lessons learnt for more general application across Scotland and the potential limitations of a case study based research approach in this sense) are discussed, in particular, at Chapter 7.

Case study research plans

- 2.26 Research plans have been developed and refined throughout the project. These were informed by the proposed scope/focus for each case study (see Table 2.4) which developed from the original proformas provided by the case studies, ongoing discussions with the Scottish Government and Research Advisory Group (RAG) and interviews with the case studies.
- 2.27 The design of the research plans has been undertaken in such a way as to steer data gathering towards specific case study decision-making activities of interest. In effect, these are the specific stages within the case study policy/plan/project development cycle that have been construed as the ‘on the ground’ decision-making stage for the purposes of this research and the response to Research Question No.1 in particular (see paragraph 2.28 onwards and Table 2.4).
- 2.28 Accordingly, the scope/focus of the case study research is dictated by the specific decision-making stage of interest. This then informs the research plans – when to collect data – and the specific research methods used – how to collect data. Case study research plans are included at Appendix 3.

Defining what is meant by ‘on the ground’

- 2.29 The overarching aims and objectives of the evaluation project (see Chapter 1) and Research Questions (see Table 2.2) include several references to translating the LUS Principles into decision-making ‘on the ground’. This notion of ‘on the ground’ has been a challenge for the project as it can mean different things to different people or in different contexts. This section describes what the research means by ‘on the ground’, recognising that this is different for each case study as explained further at Table 2.4 below.
- 2.30 At first sight, one might infer that the reference to ‘on the ground’ within the project aim and objectives and Research Question No.1 (see Table 2.2) directly relates to practical action that ‘breaks ground’ and that has a tangible impact in terms of land use/management activity within the landscape. Examples of these more practical actions could include:

- Forest harvesting and planting operations
 - Erection of deer fencing
 - Habitat creation
 - Habitat management
 - Grazing management in upland areas
 - Footpath maintenance
 - Activities that regenerate vacant and derelict land
 - Development of new urban greenspace
 - Construction of built development
 - Livestock density
 - Agro-chemical inputs
- 2.31 Although a key delivery issue for the LUS undoubtedly relates to these more practical land use/management actions, there are other delivery issues that are more concerned with elements of process, awareness raising and public engagement.
- 2.32 These issues may not directly result in tangible changes in the landscape but are no less important in terms of the LUS' ability to deliver sustainable land use outcomes in the long term. Key issues here include the need to engage people from all walks of life in land use/management decisions and raising awareness of the inherent link between Scotland's land resource, human wellbeing and sustainable economic growth.
- 2.33 The consideration of LUS Principles in policy-development is also vital in this regard e.g. in Scotland Rural Development Programme (SRDP) budget allocation and scheme/option design or the design of placemaking policy within Local Development Plans (LDPs). This mechanism provides the link between the national level LUS and practical land use/management action 'on the ground'.
- 2.34 In addition, what is meant by 'on the ground' in the context of this research project is influenced by the scope of the research and the specifics of the adopted methodology, especially with respect to project timescales (i.e. the scope of the case study decision-making processes covered during the lifetime of the research project). The research is case study based and each of the case studies is involved in the development and delivery of one or more policies/plans/projects, as detailed at Table 2.3, that are being evaluated as part of this research.
- 2.35 In essence, the research is capturing a 'snap-shot' of the eleven case study policy/plan/project development cycles as dictated by the temporal scope of the research project i.e. April 2012 – April 2014. Within this timeframe, some case studies will go through a full cycle whereas others will only cover certain aspects. This may also be influenced by unexpected factors outside the control of the case studies or the researchers⁸.

⁸ As has happened in several cases – see Chapter 7 for further information

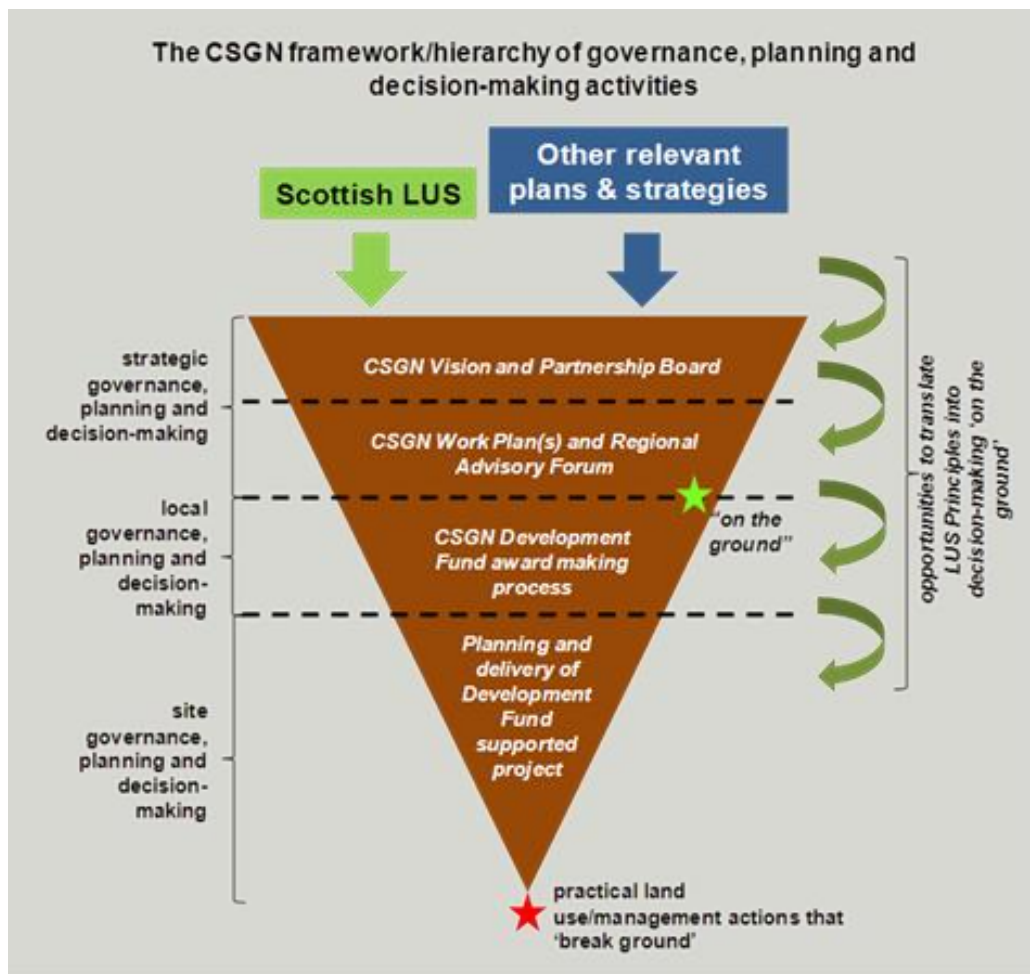


Figure 2.4 CSGN framework/hierarchy of governance/planning/decision-making

- The inverted triangle represents the case study land use delivery mechanism of interest (the CSGN in this instance) and its extant framework/hierarchy of governance, planning and decision-making activities – from strategic to local to site based decisions and ultimately to the delivery of practical land use/management actions that 'break ground' at the point of the triangle
- Within each tier of decision-making however, there is an opportunity for the LUS Principles to be translated into decision-making 'on the ground' where 'on the ground' is construed as the policies, plans, frameworks, actions, key decisions etc within the subsequent lower tier of governance, planning and decision-making
- Within the scope of the LUS Delivery Evaluation Project, it has not been possible, for each case study land use delivery mechanism, to capture information on how the LUS Principles are being considered and translated across the entire framework/hierarchy of governance, planning and decision-making activities. This is due to the timescales of the research relative to the timescales of the case study policy/plan/project development cycles being evaluated
- For each case study, the research team has defined what is meant by 'on the ground' to scope the research activities required to answer Research Question No.1 *"have the high level LUS Principles been translated into decision-making on the ground"*. In the case of the CSGN, 'on the ground' is construed as the process of deciding which applicant projects to award CSGN Development Fund monies to as indicated by the green star on Figure 2.4

2.36 As such, the research team have taken a pragmatic approach to defining what is meant by 'on the ground' for each case study. In most cases, this is likely to be a specific decision-making stage within the case study land use delivery mechanism's wider framework/hierarchy of governance, planning and decision-making activities.

- 2.37 The premise of this approach however is that these wider frameworks/hierarchies would at some point result in the delivery of practical land use/management activities that 'break ground'. This is illustrated on Figure 2.4 using the CSGN case study as an example.
- 2.38 In essence, the evaluation of the degree to which the high level LUS Principles have been translated into decision-making on the ground is focussed on process orientated delivery issues (i.e. governance, planning and decision-making) as opposed to practical land use/management activities that directly cause tangible impacts in the landscape.
- 2.39 To support the evaluation against Research Question No.1 bespoke evaluation criteria were developed to help the research team identify where the LUS Principles are being considered/translated in terms of process and outcome issues – i.e. where the LUS Principles are being translated into decision-making 'on the ground'. The criteria are discussed further in Chapter 3 and are provided in full at Appendix 1.
- 2.40 Table 2.4 defines what is meant by 'on the ground' for each of the case studies. Using the CSGN case study as an example, Figure 2.3 depicts the framework/hierarchy of governance, planning and decision-making activities and the specific decision-making juncture that the research team are construing as 'on the ground' for the purposes of evaluation against Research Question No.1.
- 2.41 Chapter 3 includes further details of the 'on the ground' decision-making juncture for each case study in relation to the Research Question No.1 evaluation.
- 2.42 The scope of the research in terms of what is meant by 'on the ground' has had a direct influence over the case study research plans (see paragraph 2.25, Table 2.4 and Appendix 3) and also the scope of the case study specific findings documented in this Final Report.

Table 2.4 Defining what is meant by 'on the ground' for each case study

Case study	'On the ground' means...	Has the 'on the ground' stage been reached in the course of the project?
Buccleuch Estates – Whole Estate Development Plan (WEDP)	The application and interpretation of the WEDP approach to specific estates i.e. the degree to which and how the LUS Principles have been incorporated within the WEDP approach and then translated into decision-making at the estate level	Yes – the WEDP report outlining the rationale for the approach was published in Autumn 2012. Three WEDP pilots have been developed and have started to inform practical land use/management decision-making at the estate level
Central Scotland Green Network (CSGN)	The process of deciding which applicant projects to award CSGN Development Fund monies to i.e. the degree to which and how the LUS Principles have informed the translation of CSGN strategic policy and vision into Development Fund award	Yes – several rounds of Development Fund monies have now been awarded, the most recent being for the 2013/14 financial year. The CSGN have recently published their most up to date Work Plan for the period 2013 – 2016

Case study	'On the ground' means...	Has the 'on the ground' stage been reached in the course of the project?
	decision-making	
Coigach Assynt Living Landscape (CALL)	Steering Group decisions informed by comment from the Review Group i.e. the degree to which and how the LUS Principles have been reflected and translated in the outputs and/or outcomes of Steering Group decisions	Yes – two Review Group meetings have been held since the CALL Project Manager has been in post (September 2011). Several projects have been initiated as a result of Steering Group decisions
Dee Catchment Partnership Business Plan	The process of identifying priorities and making decisions by the Partnership to inform the development of the Business Plan i.e. the degree to which and how the LUS Principles are translated in the priorities, decisions and provisions within the Business Plan	Yes – the revised Business Plan was launched in June 2013
Glasgow City Council Local Development Plan (LDP)	The process of developing and adopting Glasgow LDP Supplementary Guidance i.e. the degree to which and how the LUS Principles are translated into provisions within the Supplementary Guidance. Due to the scope of the LDP, the research has considered a specific policy issue within the LDP (environment) and specific Supplementary Guidance (green network)	No – the development of the LDP has been delayed and public consultation on the Proposed Plan is not anticipated until May 2014. Additional material has been considered where relevant to ensure the evaluation is as comprehensive as possible
Forestry and Woodland Strategies (FWS) Perth and Kinross and Stirling and Clackmannanshire	The process of reviewing the Forest and Woodland Strategy i.e. the degree to which and how the LUS Principles are translated in the new strategy's provisions	No – the evaluation was initially considering the Highland FWS though programme and timescale issues meant that this case study had to be replaced in September 2013. The replacement FWS – Perth and Kinross and a joint Stirling and Clackmannanshire FWS – are yet to adopt their finalised strategies. The evaluation considered the process of reviewing FWS up to and including consultation on the draft FWS and SEA Environmental Report
Loch Lomond and the Trossachs National Park (LLTNP) National Park Partnership Plan (NPPP)	The process of developing and agreeing the NPPP Individual Partner Agreements (IPAs) i.e. the degree to which and how the LUS Principles are translated into specific actions and provisions within the IPAs	Yes – the research team have been privy to several draft IPAs though only one of these was suitable for consideration in the evaluation as the others did not have a tangible impact on land use/management issues
Monitor Farms Programme	The appointment of specific monitor farms i.e. the degree to which and how the LUS Principles are incorporated and translated through the land management actions and approaches being tested and considered on specific monitor farms	Yes – Monitor Farms operates on a rolling programme and numerous farms have joined the programme since its inception

Case study	‘On the ground’ means...	Has the ‘on the ground’ stage been reached in the course of the project?
North Harris Trust (NHT)	The decision-making process adopted by the North Harris Trust i.e. the degree to which and how the LUS Principles are considered when relevant decisions are made and then translated through subsequent action	Yes – the North Harris Trust was formed in 2003 and has since made numerous decisions which have been translated into action including actions that break ground and effect change in the landscape
Galloway and Southern Ayrshire Biosphere	The scoping, development and subsequent implementation of actions emerging from the Biosphere Theme Groups i.e. the degree to which and how the LUS Principles are considered in Theme Group discussions and then translated through subsequent action	To a degree – the evaluation has focused on the ‘getting the best from the land’ thematic group. This group met in February 2012 to test a stakeholder engagement approach to integrated catchment management. Documented outputs are available from this meeting though subsequent action has not yet been agreed or delivered
Wildlife Estates Scotland (WES) Initiative	The application and development of the WES accreditation process i.e. the degree to which and how the LUS Principles have been translated within the WES accreditation criteria/process and in decisions to approve the accreditation of applicant estates	Yes – the WES accreditation scheme was officially launched in February 2013 and a number of estates have since been successfully accredited

3 TRANSLATING THE LUS PRINCIPLES INTO ACTION ON THE GROUND

- 3.1 Research Question No.1 asks *“have the high level LUS Principles been (implicitly or explicitly) translated into decision-making on the ground and, if they have, how well?”* The response to this question provides the basis for responding to all other Research Questions and is of fundamental importance to the overall findings.
- 3.2 This Chapter includes a summary of the analysis approach used for the Research Question No.1 evaluation, an overall summary of the evaluation, case study specific evaluation summaries and a synthesis of key themes/issues emerging from the Research Question No.1 evaluation. Detailed case study specific Research Question No.1 evaluations are provided in Appendix 4.

Analysis approach

- 3.3 As discussed in Chapter 2, it has been necessary to define what is meant by ‘on the ground’ for each of the case studies, recognising that the scope of the LUS Delivery Evaluation Project is such that most of the case studies will not reach a decision-making juncture leading to tangible land use/management impacts in the landscape (see Table 2.4). Rather, the focus of this project is on policy and process level decision-making.
- 3.4 As such, the collation of data to support the Research Question No.1 evaluation has focussed on the specific ‘on the ground’ decision-making juncture defined for each case study (see Table 2.4). In practice this involved document review in the first instance to identify documented evidence of LUS Principle consideration. This was then validated through semi-structured interviews with case study leads and other stakeholders as appropriate.
- 3.5 The Research Question No.1 evaluation considered both **process** and **outcome** issues supported by the bespoke evaluation criteria detailed at Appendix 1. Consideration of LUS Principles in terms of process reflects the context within which decisions are made. Consideration of outcome reflects the results of decision-making. Where a Principle has been considered comprehensively in relation to both process and outcome issues, it is said to have been translated into decision-making ‘on the ground’. LUS Principle B on regulation was a special case in terms of Research Question No.1 evaluation as described further at paragraph 3.10 onwards.
- 3.6 In the case of the CSGN for example (see Tables 2.3 and 2.4 and Figure 2.4), data collation around **process** focussed on assessing where the LUS Principles were considered in the CSGN’s strategic policy framework (the Vision and Work Plan documents) and the formal Development Fund application process. Data collation around **outcome** focussed on a sample of Development Fund supported projects. In this manner, it was possible to evaluate the degree to which LUS Principles considered within the CSGN strategic policy framework have been translated into Development Fund

award decision-making (recognising that the evaluation only considered a sample of Development Fund supported projects).

- 3.7 The Research Question No.1 evaluation was informed by: 1) evidence on consideration of LUS Principles in terms of process/outcome; and 2) the bespoke evaluation criteria designed to help the research team identify where LUS Principles were being considered/translated (see Chapter 2 paragraph 2.38 and Appendix 1). The use of criteria in this regard facilitated the assessment of *“how well have the LUS Principles been translated”* i.e. by taking a view on the degree to which the case studies have met all or some of the criteria, supported by the evidence. A four point scale was used as follows:
- Principle translated – yes
 - Principle translated to a degree
 - Principle not translated – no
 - N/A – principle not relevant⁹
- 3.8 This evaluation approach reflects practical land use/management policy decision-making inasmuch as consideration of LUS Principles or LUS Principle type issues at the policy level may be relatively comprehensive (i.e. evaluation of **process**) yet there is scope for this strong consideration to be diluted through subsequent decision-making (i.e. evaluation of **outcome**).
- 3.9 This is a particular issue for this research given that, within the timescales of the project (April 2012 – April 2014), few of the case studies have reached a decision-making juncture that has led to tangible land use/management impacts in the landscape. In this regard, there is scope for further dilution of the LUS Principles before they actively influence a practical land use/management decision ‘on the ground’.

The specific case of LUS Principle B

- 3.10 The evaluation of LUS Principle B on regulation in terms of translation ‘on the ground’ raised specific challenges due to the nature and scope of the Principle. In terms of the Principle itself, the focus is very much on doing ‘good regulation’ i.e. ensuring that public interest is protected whilst minimising the burden on business in the development of new or revision of existing regulation.
- 3.11 Conversely, LUS Principle B related proposals within the LUS Action Plan (Scottish Government, 2011b) are more concerned with the wholesale integration of **all** LUS Principles within relevant regulation and incentives e.g. Common Agricultural Policy (CAP) reform, guidance on local flood risk management (FRM) strategies and planning and other development consent regimes more generally.

⁹ On the basis of the case study sample considered in this research, only LUS Principle B on **regulation** and G on **vacant and derelict land** (VDL) have been assessed as non-applicable under Research Question No.1. Both of these Principles are highly specific and may not be relevant to land use/management in a given area or for a given land use delivery mechanism e.g. it could be the case that there is no VDL resource within a management area

- 3.12 In this regard, another possible route for translating LUS Principle B relates to the general integration/embedding of all LUS Principles within existing regulation and incentives. This route may be a possibility in particular for public authority type land use delivery mechanisms that are implementing some higher level legislation/regulation at a lower level – e.g. a Local Development Plan (LDP) implementing the Planning etc (Scotland) Act 2006.
- 3.13 To inform the Research Question No.1 evaluation of LUS Principle B the research has defined four key ‘routes’ by which the Principle can be translated into decision-making ‘on the ground’. Where none of these routes are relevant, LUS Principle B is deemed to be non-applicable for the case study in question. The four routes are:
1. Introduction of **new** regulation/incentives with measures to support compliance i.e. helping to minimise the burden of regulation
 2. Revision of **existing** regulation/incentives with measures to support compliance i.e. helping to minimise the burden of regulation
 3. Doing something different or new that somehow **streamlines** or **supports** the delivery of existing regulation – note that this is different from route No.2 as it is separate from the regulation. In particular, route No.3 is regarded as providing private sector land use delivery mechanisms with an opportunity to translate LUS Principle B
 4. For public sector land use delivery mechanisms that are implementing some higher level legislation/regulation at a lower level (e.g. LDPs, FRM strategies, RBMPs etc) – the **integration** of wider LUS Principles within the lower level regulatory framework/regime

Translating LUS Principles on the ground – overall summary

- 3.14 The LUS Delivery Evaluation Project has considered eleven case study land use delivery mechanisms. This represents a small sample from the wider Scottish land use delivery mechanism landscape (see Chapter 1 paragraph 1.19 and Table 1.2). Furthermore, the scope of the evaluation for each case study has necessarily focussed on a specific decision-making juncture that has been construed as ‘on the ground’ for the purposes of this research (see Chapter 2 paragraph 2.28 onwards and Table 2.4).
- 3.15 As such, the evaluation represents a snapshot of Scottish land use delivery or indeed individual case study land use delivery – i.e. the findings outlined here cannot be construed as fully representative of land use delivery in Scotland or in the case studies for that matter. For example, different case studies or case study foci might have yielded different results and the findings should be read with this in mind.
- 3.16 Overall, the Research Question No.1 evaluation indicates that in a narrow majority (57 of 110 instances¹⁰) the LUS Principles have been translated into decision-making ‘on the ground’. In a substantial number of instances (42 out of 110) the Principles have been translated to a degree whilst instances of the

¹⁰ There are ten LUS Principles and eleven case studies equating to 110 possible ‘instances’ of LUS Principle translation (see Figure 3.4 for a visual representation of this issue)

Principles not being translated (4 out of 110) or not being relevant (7 out of 110) are much less frequent. This is indicated on Figure 3.1.

- 3.17 Overall therefore, the LUS Principles have been considered at least to a degree in the majority of instances (99 out of 110) within the case study sample considered. For the most part, the consideration of LUS Principles has been implicit rather than explicit – i.e. consideration of LUS Principles in decision-making has been teased out using the evaluation criteria as described above at paragraph 3.3 onwards. A visual summary of the Research Question No.1 evaluation overall is shown at Figure 3.4.

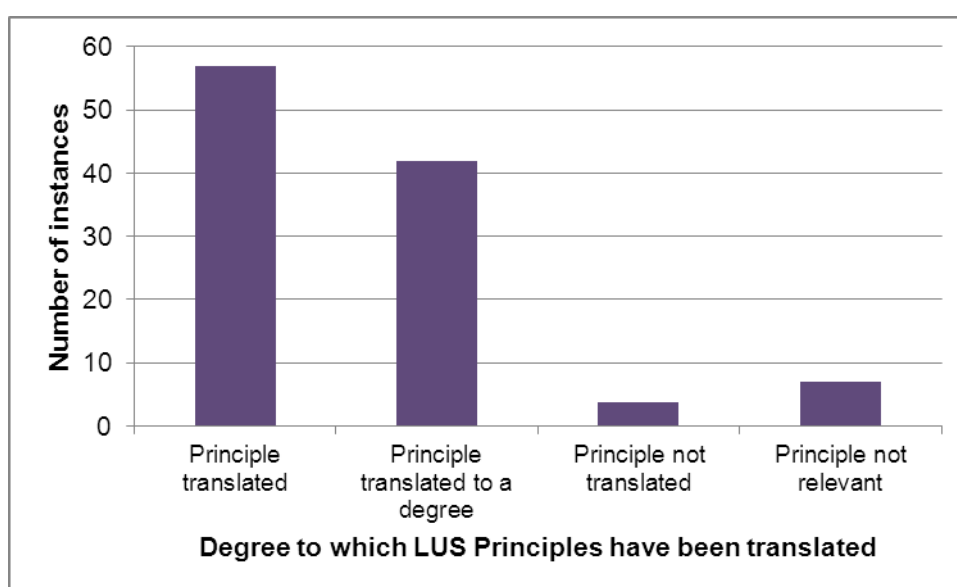


Figure 3.1 Degree to which all 10 LUS Principles have been translated into decision-making ‘on the ground’ – number of instances¹¹ across all case studies

- For the two case studies that did not reach their specific ‘on the ground’ decision-making juncture during the lifetime of the LUS Delivery Evaluation Project (the Glasgow LDP and the two FWS – see Table 2.4), the Figure above includes Research Question No.1 process issue data only (see paragraphs 3.3 – 3.9 and Appendix 1 as well). This is for the purposes of illustration

- 3.18 Figure 3.2 shows the results of the Research Question No.1 evaluation on the basis of individual LUS Principles. The data indicates relatively consistent translation across the following six LUS Principles: Principle A on **multiple benefits**, C on **primary use**, D on **ecosystem services**, E on **landscape change**, I on **involving people** and J on **land use and the daily living link**.
- 3.19 In all except one of these cases a majority (between six and seven) of the eleven case studies have translated the Principle into decision-making ‘on the ground’ with a smaller portion (between three and four) only translating the Principle to a degree. The exception is LUS Principle I on **involving people** where one case study did not consider/translate the Principle.
- 3.20 The translation of other LUS Principles was found to be more mixed – Principle B on **regulation**, G on **vacant and derelict land** and H on **outdoor**

¹¹ Ibid

recreation and access. Translation of Principle G in particular was found to be particularly mixed with two of the case studies having translated it into decision-making ‘on the ground’, three to a degree and two not translating it. Importantly, LUS Principle G was found to not be relevant to four of the case studies. The potential reasons for this are discussed in the case study specific sections later on in this Chapter (paragraph 3.23 onwards).

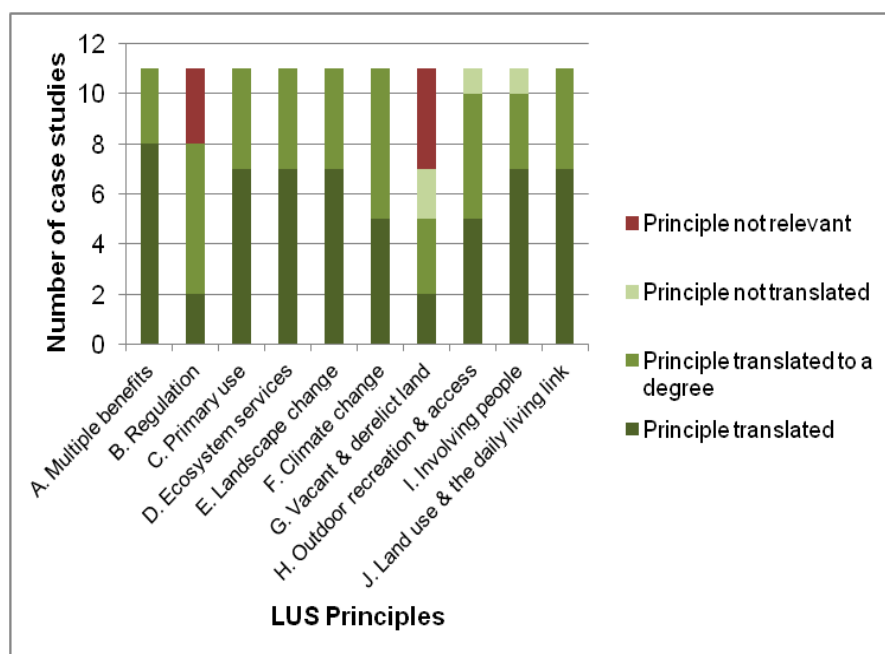


Figure 3.2 Degree to which individual LUS Principles have been translated into decision-making ‘on the ground’ – percentage of instances across all case studies

- For the two case studies that did not reach their specific ‘on the ground’ decision-making juncture during the lifetime of the LUS Delivery Evaluation Project (the Glasgow LDP and the two FWS – see Table 2.4), the Figure above includes Research Question No.1 process issue data only (see paragraphs 3.3 – 3.9 and Appendix 1 as well). This is for the purposes of illustration

- 3.21 Crucially for the LUS given its provenance within Scotland’s climate change legislation, translation of LUS Principle F on **climate change** was relatively poorly represented in the sense that a small majority of case studies (six) only translated it to a degree with a small minority (five) translating it fully. This is in marked contrast to LUS Principles A, C, D, E, I and J where the majority of case studies translated the Principle fully.
- 3.22 As discussed further in relevant case study specific sections of this Chapter, one key reason for this is LUS Principle F’s dual focus on climate change mitigation and adaptation, a factor that has been reflected in the Research Question No.1 evaluation criteria (see Appendix 1). In some instances, case studies have only considered mitigation or adaptation actions rather than both whereas the LUS (and indeed other policy and literature on climate change) suggests that there should be scope for practical land use/management to deliver against both agendas, in most (if not all) cases. In these instances therefore, case studies were assessed as having only partially translated LUS Principle F i.e. translation ‘to a degree’ (see paragraph 3.7).

Translating LUS Principles on the ground – case study specific summaries

- 3.23 An overall summary of the Research Question No.1 evaluation is provided at paragraphs 3.14 – 3.22 above. This section provides case study specific summaries including visual summaries of the degree to which individual case studies have translated the ten LUS Principles into decision-making ‘on the ground’ and an analysis and commentary on significant issues, framed in terms of relevant sub-Research Questions.
- 3.24 Detailed, case study specific Research Question No.1 evaluation assessment tables can be found at Appendix 4 and should be read in conjunction with the summaries documented here. Appendix 4 also provides a description of the data that has been used to support the Research Question No.1 evaluation for each case study.

Buccleuch Estates Whole Estates Development Plan (WEDP) approach

- 3.25 As outlined at table 2.4, ‘on the ground’ in the context of the Buccleuch Estates WEDP approach has been interpreted as: *the application and interpretation of the WEDP approach to specific estates i.e. the degree to which the LUS Principles have been incorporated within the WEDP approach and then translated into decision-making at the estate level.*
- 3.26 The Buccleuch Estates ‘on the ground’ decision-making juncture has been met during the course of the LUS Delivery Evaluation Project and has been considered fully in the Research Question No.1 evaluation. More detailed information on the Buccleuch Estates ‘on the ground’ decision-making juncture is provided at Appendix 4 (paragraph 4.1 onwards) along with the detailed evaluation which includes an explanation of the rationale for each assessment. Figure 3.3 provides a summary of the Research Question No.1 evaluation.

Key to translation ‘on the ground’		A. Multiple benefits	B. Regulation	C. Primary use	D. Ecosystem services	E. Landscape change	F. Climate change	G. Vacant & derelict land	H. Outdoor recreation & access	I. Involving people	J. Land use & the daily living link
Yes											
To a degree			N/A					N/A			
No											
N/A	N/A										

Figure 3.3 Buccleuch Estates WEDP approach – summary of Research Question No.1 evaluation: translation of LUS Principles into decision-making ‘on the ground’

- 3.27 Two of the LUS Principles have been translated fully, five to a degree, one hasn’t been translated at all and two Principles are deemed to be non-applicable to the specific context. There was no explicit mention of the LUS or the LUS Principles within the documents reviewed so all consideration of the

Principles is implicit rather than explicit. Interestingly the WEDP Pilot Project Report includes a specific mention of the LUS ecosystems approach information note (Scottish Government, 2011c) but no mention of the LUS itself.

- 3.28 The two LUS Principles deemed to be non-applicable in the Buccleuch Estates context are Principle B on **regulation** and G on **vacant and derelict land**. In terms of Principle B, the only route that would be available to the Buccleuch Estates case study is route No.3 – i.e. doing something different or new that somehow streamlines or supports the delivery of existing regulation (see paragraph 3.10 for further information).
- 3.29 Whilst the WEDP approach is, itself, a novel approach with the potential to help streamline or support regulation (e.g. collating and presenting land use/management data in a consistent and integrated format), this did not come across in the data or the evaluation. In terms of Principle G, vacant and derelict land is not a significant land management issue for Buccleuch Estates and it is therefore not considered in the WEDP approach.
- 3.30 LUS Principle C on **primary use** and E on **landscape change** were both considered to have been translated fully. In terms of Principle C, the highly spatial nature of the WEDP approach lends itself to the use and analysis of spatial data in order to map key areas of primary use including forestry, in-hand farming (arable and pasture ground) and also the ‘core heritage estate’ – i.e. parts of the estate where the landscape has a particularly significant socio-cultural value. A lack of understanding, data and incentives around flood/water management and the management of peat/carbon rich soils may mean that these potential primary land uses are accounted for less comprehensively in the WEDP spatial analysis.
- 3.31 LUS Principle I on **involving people** is considered to have not been translated. Engagement with local communities is felt to be relevant when considering specific land use/management changes¹² but there are currently no plans to involve the public/affected communities in decision-making at the whole estate level. As a private land owner however, Buccleuch Estates are under no obligation to consult the public on estate-wide land use/management plans and policy

Central Scotland Green Network (CSGN)

- 3.32 As outlined at Table 2.4, ‘on the ground’ in the context of the CSGN has been interpreted as: *the process of deciding which applicant projects to award CSGN Development Fund monies to i.e. the degree to which the LUS Principles have informed the translation of CSGN strategic policy into Development Fund award decision-making*. The specific case of the CSGN in this regard is outlined further as an example in Chapter 2 and depicted on Figure 2.4.

¹² Indeed there will be statutory consultations on certain changes e.g. applications to create new woodlands: <http://www.forestry.gov.uk/forestry/INFD-5ZGLRV> [accessed 03/05/14]












Key to translation 'on the ground'		Case study land use delivery mechanisms										
Yes												
To a degree												
No												
N/A												
LUS Principles		Buccleuch Estates WEDP ¹	Central Scotland Green Network (CSGN)	Coigach Assynt Living Landscape (CALL)	Dee Catchment Partnership	Glasgow Local Development Plan ²	Forestry and Woodland Strategies ³	LLTNP National Park Partnership Plan	Monitor Fams Programme	North Harris Trust	Galloway and Southern Ayrshire Biosphere	Wildlife Estates Scotland
A. Multiple benefits						?	?					
B. Regulation		N/A		N/A		?	?			N/A		
C. Primary use						?	?					
D. Ecosystem services						?	?					
E. Landscape change						?	?					
F. Climate change						?	?					
G. Vacant & derelict land		N/A		N/A		?	?			N/A		N/A
H. Outdoor recreation & access						?	?					
I. Involving people						?	?					
J. Land use & the daily living link						?	?					

Figure 3.4 Visual summary of Research Question No.1 evaluation – translation of LUS Principles into decision-making on the ground

- As per Table 2.4, the Glasgow LDP case study and the two FWS case studies (Stirling and Clackmannanshire/Perth and Kinross) did not meet their 'on the ground' decision-making juncture during the project. Accordingly, the Research Question No.1 evaluation for these two case studies is based on process issue data only
- In these instances therefore the evaluation is only an estimate of translation 'on the ground' – i.e. had outcome issue data been available as well it may have been apparent, for example, that some of the LUS Principles have not been translated from their consideration at the policy/decision-making level into action 'on the ground' (i.e. Supplementary Guidance on green network in the case of the Glasgow LDP and adopted strategies in the case of the two FWS). This is indicated by a ? on the Figure

- 3.33 The CSGN ‘on the ground’ decision-making juncture has been met during the course of the LUS Delivery Evaluation Project and has been considered fully in the Research Question No.1 evaluation. More detailed information on the CSGN ‘on the ground’ decision-making juncture is provided at Appendix 4 (paragraph 4.7 onwards) along with the detailed evaluation which includes an explanation of the rationale for each assessment. Figure 3.5 provides a summary of the Research Question No.1 evaluation for the CSGN case study.
- 3.34 Five of the LUS Principles have been translated fully and five to a degree. Accordingly, all ten Principles are considered to be relevant to the CSGN case study. There is one explicit mention of the LUS in the CSGN Work Plan 2012-2015 but no explicit mention of the LUS Principles themselves. As such, all consideration of the Principles is implicit rather than explicit.
- 3.35 LUS Principle A on **multiple benefits**, E on **landscape change**, F on **climate change**, G on **vacant and derelict land** and H on **outdoor recreation and access** were considered to have been translated fully. In terms of Principle E for example, the CSGN consider landscape planning and management issues at a range of scales including from “*towns and cities [to] the wider countryside and coast*” (CSGN Partnership Board, 2011a p.5). Crucially, landscape issues at a more human scale are also reflected in relation to the role of environmental settings influencing sense of place and human wellbeing.

Key to translation ‘on the ground’		A. Multiple benefits	B. Regulation	C. Primary use	D. Ecosystem services	E. Landscape change	F. Climate change	G. Vacant & derelict land	H. Outdoor recreation & access	I. Involving people	J. Land use & the daily living link
Yes											
To a degree											
No											
N/A	N/A										

Figure 3.5 CSGN – summary of Research Question No.1 evaluation: translation of LUS Principles into decision-making ‘on the ground’

- 3.36 LUS Principle G and vacant and derelict land (VDL) issues are a particular priority for the CSGN given the region’s legacy of industrial dereliction. In this regard, VDL objectives are prevalent throughout all elements of the CSGN’s strategic framework (Vision and Work Plan) and have been a named priority within the CSGN Development Fund application process since its inception. The CSGN Work Plan 2012-2015 includes specific measures on the integration of VDL with relevant Scottish Government policies and funding streams. Crucially, three of the nine Development Fund supported projects considered in the evaluation had addressed VDL issues in detail including opportunities for the delivery of multiple benefits from VDL sites (e.g. habitat networks, biodiversity enhancement, community food growing, access and

active travel, health and wellbeing and placemaking) demonstrating the potentially important links between LUS Principle G and other Principles.

- 3.37 In terms of LUS Principles that were considered less well in the CSGN case study, LUS Principle I on **involving people** is of noteworthy importance. The CSGN Vision was subject to public consultation and includes important provisions in this regard such as “*communities should be at the heart of decision-making and should be involved in developing assets...*” (CSGN Partnership Board, 2011a p.7). Despite this, the rolling CSGN Work Plans are not informed by public consultation and there is no specific requirement for prospective CSGN Development Fund supported projects to involve people in the development or design of projects. That said, six of the nine Development Fund supported projects considered in the research had considered LUS Principle I type issues to varying degrees.

Coigach Assynt Living Landscape (CALL)

- 3.38 As outlined at Table 2.4, ‘on the ground’ in the context of CALL has been interpreted as: *CALL Steering Group decisions taken as a result of comment and input from yourCALL meetings i.e. the degree to which and how the LUS Principles have been reflected and translated in the outputs and/or outcomes of CALL Steering Group decisions.*
- 3.39 The CALL ‘on the ground’ decision-making juncture has been met during the course of the LUS Delivery Evaluation Project and has been considered fully in the Research Question No.1 evaluation. More detailed information on the CALL ‘on the ground’ decision-making juncture is provided at Appendix 4 (paragraph 4.16 onwards) along with the detailed evaluation which includes an explanation of the rationale for each assessment. Figure 3.6 provides a summary of the Research Question No.1 evaluation for the CALL case study.
- 3.40 Five of the LUS Principles have been translated fully, three to a degree and two Principles are deemed to be non-applicable to CALL’s specific context. There is no explicit mention of the LUS or the LUS Principles so all consideration of the Principles is implicit rather than explicit.

Key to translation ‘on the ground’		A. Multiple benefits	B. Regulation	C. Primary use	D. Ecosystem services	E. Landscape change	F. Climate change	G. Vacant & derelict land	H. Outdoor recreation & access	I. Involving people	J. Land use & the daily living link
Yes											
To a degree			N/A					N/A			
No											
N/A	N/A										

Figure 3.6 CALL – summary of Research Question No.1 evaluation: translation of LUS Principles into decision-making ‘on the ground’

- 3.41 The two LUS Principles deemed to be non-applicable in the CALL context are Principle B on **regulation** and G on **vacant and derelict land**. In terms of Principle B, the only route that would be available to the CALL case study is route No.3 – i.e. doing something different or new that somehow streamlines or supports the delivery of existing regulation (see paragraph 3.10) though this did not come across in the data or the evaluation and is considered to be a marginal issue for CALL. In terms of Principle G, vacant and derelict land is not a significant land management issue within the CALL project area and it is therefore not considered in any of the Partnership's activities.
- 3.42 LUS Principle C on **primary use**, D on **ecosystem services**, E on **landscape change**, I on **involving people** and J on **land use and the daily living link** were all considered to have been translated fully. In relation to LUS Principle D for example, the CALL Programme Plan is framed within an ecosystems approach including specific mention to the Convention on Biological Diversity ecosystems approach principles¹³ (CBD) and Scottish Wildlife Trust's (SWT) Living Landscapes Policy¹⁴ (SWT, 2009). There is a particular focus on key ecosystem processes/intermediate services through consideration of modelled integrated habitat networks (IHNs) data. This is carried through from the strategic Programme Plan level to the project level in the CALL partnership's habitat connections opportunity mapping work. The opportunities mapping work also considers key ecosystem services including climate regulation (carbon storage through deep peat/carbon rich soils), environmental settings (landscapes) and food production (crofting on the coastal margins).
- 3.43 Of the three LUS Principles that have only been considered to a degree, Principle F on **climate change** stands out. Although the CALL case study has considered climate change mitigation and adaptation, the focus of CALL's adaptation agenda is on ecological connectivity and ecosystem resilience as opposed to other relevant adaptation issues (e.g. protection against storms and extreme weather) and this is why CALL has been assessed as having translated this Principle only 'to a degree'.

Dee Catchment Partnership Business Plan

- 3.44 As outlined at Table 2.4, 'on the ground' in the context of the Dee Catchment Partnership (DCP) has been interpreted as: *the process of identifying priorities and making decisions by the Partnership to inform the development of the Business Plan i.e. the degree to which and how the LUS Principles are translated in the priorities, decisions and provisions within the Business Plan.*
- 3.45 The DCP 'on the ground' decision-making juncture has been met during the course of the LUS Delivery Evaluation Project and has been considered fully in the Research Question No.1 evaluation. More detailed information on the DCP 'on the ground' decision-making juncture is provided at Appendix 4 (paragraph 4.24 onwards) along with the detailed evaluation which includes

¹³ CBD Ecosystems Approach pages: <https://www.cbd.int/ecosystem/> [accessed 03/03/14]

¹⁴ SWT are also one of the landowning partners in the CALL project: <http://coigach-assynt.org/about-the-project/who-is-involved/> [accessed 03/03/14]

an explanation of the rationale for each assessment. Figure 3.7 provides a summary of the Research Question No.1 evaluation for the DCP case study.

- 3.46 Four of the LUS Principles have been translated fully, five to a degree and one has not been translated at all. Accordingly, all ten Principles are considered to be relevant to the DCP case study. The DCP Business Plan 2013-2016 includes three specific mentions of the LUS (including reference to the Aberdeenshire Regional Land Use Framework pilot¹⁵ which overlaps with the DCP project area) though there is no explicit mention of individual LUS Principles. Accordingly, all consideration of the Principles is implicit rather than explicit.
- 3.47 LUS Principle A on **multiple benefits**, D on **ecosystem services**, H on **outdoor recreation and access** and I on **involving people** were all considered to have been translated fully. In terms of Principle A for example, the purpose of the DCP is to align and deliver the objectives of a substantial number of partner organisations with wide remits. In this regard, projects that demonstrate multiple benefits are prioritised as they are likely to improve value for money and reflect the objectives of several partners. Similarly, LUS Principle H type issues are reflected in several of the partner organisations objectives and there is a drive within the DCP to work to reduce conflicts between outdoor recreation and access and other land management issues.

Key to translation 'on the ground'		A. Multiple benefits	B. Regulation	C. Primary use	D. Ecosystem services	E. Landscape change	F. Climate change	G. Vacant & derelict land	H. Outdoor recreation & access	I. Involving people	J. Land use & the daily living link
Yes											
To a degree											
No											
N/A	N/A										

Figure 3.7 DCP – summary of Research Question No.1 evaluation: translation of LUS Principles into decision-making 'on the ground'

- 3.48 In terms of LUS Principles that have been translated to a degree, LUS Principle B on **regulation** is noteworthy as it translates the Principle via route No.4 (see paragraph 3.10). In this regard, although the DCP is not a public body as such many of the DCP partners are public bodies and there is an emphasis within the DCP on integrating the delivery of regulatory objectives e.g. the Water Framework Directive¹⁶ (WFD), Habitats Directive¹⁷, Floods Directive¹⁸ and National Parks (Scotland) Act 2000¹⁹.

¹⁵ Scottish Government Regional Land Use Framework pilot pages: <http://www.scotland.gov.uk/Topics/Environment/Countryside/Landusestrategy/regional> [accessed 03/03/14]

¹⁶ EU WFD pages: <http://ec.europa.eu/environment/water/water-framework/> [accessed 03/03/14]

- 3.49 LUS Principle G on **vacant and derelict land** (VDL) is considered to have not been translated. Although there is understood to be some VDL within the Dee catchment there is no explicit or implicit reference to LUS Principle G within the Business Plan. VDL is arguably an issue of possible significance given its potential role providing multiple benefits e.g. the potential flood storage function of VDL sites where they are located within the floodplain.

Glasgow City Council Local Development Plan (LDP)

- 3.50 As outlined at Table 2.4, 'on the ground' in the context of the Glasgow Local Development Plan (LDP) case study has been interpreted as: *the process of developing and adopting Glasgow LDP Supplementary Guidance i.e. the degree to which and how the LUS Principles are translated into provisions within the Supplementary Guidance*. Due to the broad scope of the LDP, the evaluation has focussed on a specific key regeneration issue/option within the LDP (environment) and specific supplementary guidance (green network).
- 3.51 The Glasgow LDP 'on the ground' decision-making juncture has not been met during the course of the LUS Delivery Evaluation Project. As such, the Research Question No.1 evaluation has considered **process** issues only i.e. the degree to which the LUS Principles are considered within the LDP Main Issues Report (MIR). More detailed information on the Glasgow LDP 'on the ground' decision-making juncture is provided at Appendix 4 (paragraph 4.35 onwards) along with the detailed evaluation which includes an explanation of the rationale for each assessment. Figure 3.8 provides a summary of the Research Question No.1 evaluation for the Glasgow LDP case study.

Key to translation 'on the ground'		A. Multiple benefit	B. Regulation	C. Primary use	D. Ecosystem services	E. Landscape change	F. Climate change	G. Vacant & derelict land	H. Outdoor recreation & access	I. Involving people	J. Land use & the daily living link
Yes											
To a degree		?	?	?	?	?	?	?	?	?	?
No											
N/A	N/A										

Figure 3.8 Glasgow LDP – summary of Research Question No.1 evaluation: translation of LUS Principles into decision-making 'on the ground'

- The Glasgow LDP case study did not reach its specific 'on the ground' decision-making juncture during the lifetime of the LUS Delivery Evaluation Project
- As such, the summary in the Figure above is based on the evaluation of process issue data only, hence why all assessments are caveated with a question mark

¹⁷ EU Habitats Directive pages:

http://ec.europa.eu/environment/nature/legislation/habitatsdirective/index_en.htm [accessed 03/03/14]

¹⁸ EU Floods Directive pages: http://ec.europa.eu/environment/water/flood_risk/ [accessed 03/03/14]

¹⁹ National Parks (Scotland) Act 2000: <http://www.legislation.gov.uk/asp/2000/10/contents> [accessed 03/03/14]

- 3.52 Recognising that the Research Question No.1 evaluation of the Glasgow LDP case study is an estimate based on process issues data only, five of the LUS Principles have been translated fully and five to a degree. Accordingly, all ten Principles are considered to be relevant to the Glasgow LDP case study. There is no explicit mention of the LUS or the LUS Principles so all consideration of the Principles is implicit rather than explicit.
- 3.53 LUS Principle A on **multiple benefits**, B on **regulation**, E on **landscape change**, G on **vacant and derelict land** and I on **involving people** are all considered to have been translated fully (in terms of process issues – see paragraph 3.5 for further information). In terms of Principle E for example, the MIR includes implicit recognition of undertaking landscape planning/management at different scales. Specific landscape studies have informed the issues outlined in the MIR including the relevant Landscape Character Assessment (LCA) and a 2004 landscape capacity study undertaken to inform energy development. There is also a specific SEA objective on landscape – *“to protect and enhance landscape character, distinctiveness and scenic value”* (GCC, 2011b) – meaning, therefore, that LUS Principle E type issues have been considered within the SEA process.
- 3.54 The Glasgow LDP case study’s consideration of LUS Principle G and I is also noteworthy. In terms of LUS Principle G, the MIR includes extensive consideration of the VDL resource within the city and its potential utility providing a range of benefits and functions across issues such as housing, energy, recreation, wellbeing and community growing, including through the Council’s award winning Stalled Spaces²⁰ initiative which facilitates temporary use agreements between developers/landowners and community groups. In terms of LUS Principle I, stakeholder and wider public consultation has been facilitated, in part, through the SEA process but the Council also used several innovative techniques to engage stakeholders and communities including a postcard consultation on the MIR’s key issues²¹.

Forestry and Woodland Strategies

- 3.55 As outlined at Table 2.4, ‘on the ground’ in the context of the Forestry and Woodland Strategy (FWS) case study has been interpreted as: *the process of developing the FWS i.e. the degree to which the LUS Principles have been considered in FWS development process and SEA and then translated into key provisions within the adopted FWS*. The FWS case study has drawn on two example FWS: 1) the joint Stirling and Clackmannanshire FWS; and 2) the Perth and Kinross FWS²².
- 3.56 The FWS ‘on the ground’ decision-making juncture has not been met during the course of the LUS Delivery Evaluation Project. As such, the Research Question No.1 evaluation has only considered process issues i.e. the degree

²⁰ GCC Stalled Spaces initiative pages: <http://www.glasgow.gov.uk/stalledspaces> [accessed 03/03/14]

²¹ Glasgow LDP MIR summary postcards:

<http://www.glasgow.gov.uk/CHttpHandler.ashx?id=13035&p=0> [accessed 26/03/14]

²² The LUS Delivery Evaluation Project was initially considering the Highlands FWS though programme issues within Highlands Council meant that this case study had to be replaced in Autumn 2013 to ensure that the availability of sufficient FWS case study data for the evaluation

to which the LUS Principles are considered within the FCS Right Tree in the Right Place (RTRP) Guidance (FCS, 2010), in the draft FWS themselves and in related SEA and Habitats Regulation Assessment (HRA) reports. More detailed information on the FWS 'on the ground' decision-making juncture is provided at Appendix 4 (paragraph 4.42 onwards) along with the detailed evaluation which includes an explanation of the rationale for each assessment. Figure 3.9 provides a summary of the Research Question No.1 evaluation for the FWS study.

Key to translation 'on the ground'		A. Multiple benefits	B. Regulation	C. Primary use	D. Ecosystem services	E. Landscape change	F. Climate change	G. Vacant & derelict land	H. Outdoor recreation & access	I. Involving people	J. Land use & the daily living link
Yes											
To a degree		?	?	?	?	?	?	?	?	?	?
No											
N/A	N/A										

Figure 3.9 Forestry and Woodland Strategies – summary of Research Question No.1 evaluation: translation of LUS Principles into decision-making 'on the ground'

- The two FWS case studies did not reach their specific 'on the ground' decision-making juncture during the lifetime of the LUS Delivery Evaluation Project
- As such, the summary in the Figure above is based on the evaluation of process issue data only hence why all assessments are caveated with a question mark

3.57 Recognising that the Research Question No.1 evaluation of the FWS case studies is an estimate based on process issues data only, eight of the LUS Principles have been translated fully and two to a degree. Accordingly, all ten Principles are considered to be relevant to the FWS case studies. There is no explicit mention of the LUS or the LUS Principles within the RTRP Guidance (which predates the LUS). The LUS is mentioned in both draft FWS and in their accompanying SEA reports although specific LUS Principles are not mentioned. As such, all consideration of the Principles is implicit rather than explicit.

3.58 All LUS Principles apart from Principle G on **vacant and derelict land** (VDL) and H on **outdoor recreation and access** have been translated fully (in terms of process issues). In the case of Principle A on **multiple benefits** and C on **primary use** for example, there is a particular emphasis on the use of spatial data and spatial analysis, facilitated through the use of geographic information systems (GIS), to identify constraints on (i.e. areas of primary land use where forestry development is likely to be less appropriate) and opportunities for the delivery of multifunctional forestry. Key multiple benefits identified through the spatial analysis approach include water and flood risk management, ecological connectivity (forest habitat networks), health and wellbeing/community development and biodiversity (ancient woodlands). Key

constraints/areas of primary land use identified include designated natural and cultural heritage sites, areas of wild land character, peat/carbon rich soils and high value agricultural land.

- 3.59 In terms of the two LUS Principles that have been translated less well, Principle G on **vacant and derelict land** (VDL) was treated less comprehensively within RTRP with only two of the twenty one provisions assessed referencing VDL – e.g. *“improving vacant, derelict and underused land”* (FCS, 2010 p.14) is identified as a specific role for FWS and the *“creation of woodland on former extraction and industrial sites to contribute to both habitat networks and green networks”* (FCS, 2010 p.52) is highlighted as a specific objective that may be pursued. Crucially the two FWS case studies both include minor reference to LUS Principle G type issues though there is no specific assessment of the VDL resource within a forestry context or specific recommendations or policies to target forestry development in this regard.
- 3.60 Principle H on **outdoor recreation and access** is also translated less well. Although there is some consideration of a range of outdoor recreation activities within the FWS case studies, this theme is much less prevalent in the spatial analysis. As such, there is a potential risk that this objective/ecosystem service of woodland management may lose out in the face of others that have been more integral to the spatial analysis approach e.g. water/flood risk management, ecological connectivity etc.

Loch Lomond and Trossachs National Park Partnership Plan (NPPP)

- 3.61 As outlined at Table 2.4, ‘on the ground’ in the context of the Loch Lomond and the Trossachs National Park (LLTNP) National Park Partnership Plan (NPPP) case study has been interpreted as: *the process of developing and agreeing the NPPP Individual Partner Agreements (IPAs) i.e. the degree to which and how the LUS Principles are translated into specific actions and provisions within the IPAs.*

Key to translation ‘on the ground’		A. Multiple benefits	B. Regulation	C. Primary use	D. Ecosystem services	E. Landscape change	F. Climate change	G. Vacant & derelict land	H. Outdoor recreation & access	I. Involving people	J. Land use & the daily living link
Yes											
To a degree											
No											
N/A	N/A										

Figure 3.10 LLTNP National Park Partnership Plan – summary of Research Question No.1 evaluation: translation of LUS Principles into decision-making ‘on the ground’

- 3.62 The LLTNP ‘on the ground’ decision-making juncture has been met during the course of the LUS Delivery Evaluation Project and has been considered fully in the Research Question No.1 evaluation. More detailed information on the LLTNP ‘on the ground’ decision-making juncture is provided at Appendix 4 (paragraph 4.49 onwards) along with the detailed evaluation which includes an explanation of the rationale for each assessment. Figure 3.10 provides a summary of the Research Question No.1 evaluation for the LLTNP case study.
- 3.63 Seven of the LUS Principles have been translated fully, one to a degree and one hasn’t been translated at all. Accordingly, all ten Principles are considered to be relevant to the LLTNP case study. The NPPP includes two specific mentions of the LUS in relation to the NPPP’s conservation and rural development policy. Despite this there is no explicit mention of individual LUS Principles so all consideration of the Principles is implicit rather than explicit.
- 3.64 The NPPP is felt to have translated LUS Principle B on **regulation** to a degree. The NPPP includes a priority for action to engage with the development of the Scotland Rural Development Programme (SRDP) for 2014-2020²³ including the *“promotion of the National Park as a priority area within the new SRDP” to ensure that “the National Park [has] an [SRDP] scheme that is responsive to local needs and that delivers park and national outcomes”* (LLTNPA, 2012 p.20). In this regard, the NPPP has the potential to support the translation of LUS Principle B via route No.4 (see paragraph 3.10 for further information) though the impact of the Authority’s negotiations on the SRDP 2014-2020 remain to be seen.
- 3.65 LUS Principle G on **VDL** is considered to not have been translated at all. There is no consideration of LUS Principle G type issues within the NPPP although VDL is a significant issue in West Dunbartonshire²⁴, which, in part, falls within the boundaries of the National Park. Urban areas in West Dunbartonshire just adjacent to the park’s southern boundary, such as Alexandria and Dumbarton, contain significant VDL sites which could potentially raise both opportunities and constraints for key transboundary land use/management issues in the park e.g. landscape planning, ecological networks, natural flood management etc.
- 3.66 As shown on Figure 3.10 all other LUS Principles have been translated fully by the NPPP case study. This is unsurprising given the nature of the NPPP, the objectives of National Parks²⁵ and indeed the fact that the LUS is referenced as one of the key national level strategies providing the context for the NPPP. Also, the Authority highlight how the NPPP itself is the *“high-level land use strategy for the National Park”* (LLTNPA, 2012 p.13), exemplifying

²³ SRDP 2014-2020 pages: <http://www.scotland.gov.uk/Topics/farmingrural/SRDP/SRDP20142012> [accessed 30/01/14]

²⁴ Scottish Government (2013) Statistical Bulletin PLG/2013/1 Scottish Vacant and Derelict Land Survey 2012: <http://www.scotland.gov.uk/Resource/0041/00413416.pdf> [accessed 31/01/14]

²⁵ Statutory objectives/aims for National Parks are set out in Part 1 of the National Parks (Scotland) Act 2000. There are clear areas of synergy between these aims and the ten LUS Principles e.g. the second objective to *“promote the sustainable use of the natural resources of the area”*. <http://www.legislation.gov.uk/asp/2000/10/section/1> [accessed 05/03/14]

the importance of sustainable land use principles informing the scope of its policies and actions. Appendix 4 has more detailed information on how the NPPP has successfully translated LUS Principles A, C, D, E, F, H, I and J into decision-making ‘on the ground’.

Monitor Farms Programme

- 3.67 As outlined at Table 2.4, ‘on the ground’ in the context of the Monitor Farms case study has been interpreted as: *the appointment of specific monitor farms i.e. the degree to which and how the LUS Principles are incorporated and translated through the land management actions and approaches being tested and considered on specific monitor farms.*
- 3.68 The Monitor Farms ‘on the ground’ decision-making juncture has been met during the course of the LUS Delivery Evaluation Project and has been considered fully in the Research Question No.1 evaluation. More detailed information on the Monitor Farms ‘on the ground’ decision-making juncture is provided at Appendix 4 (paragraph 4.53 onwards) along with the detailed evaluation which includes an explanation of the rationale for each assessment. Figure 3.11 provides a summary of the Research Question No.1 evaluation for the Monitor Farms case study.

Key to translation ‘on the ground’		A. Multiple benefits	B. Regulation	C. Primary use	D. Ecosystem services	E. Landscape change	F. Climate change	G. Vacant & derelict land	H. Outdoor recreation & access	I. Involving people	J. Land use & the daily living link
Yes											
To a degree											
No											
N/A	N/A										

Figure 3.11 Monitor Farms – summary of Research Question No.1 evaluation: translation of LUS Principles into decision-making ‘on the ground’

- 3.69 Two of the LUS Principles have been translated fully, seven to a degree and one has not been translated at all. Accordingly, all ten Principles are considered to be relevant to the Monitor Farms case study. However, there is no explicit mention of the LUS or the LUS Principles within the Monitor Farms Strategy (which predates the LUS). As such, all consideration of the Principles is implicit rather than explicit.
- 3.70 Of all eleven case studies Monitor Farms is arguably the most different in terms of its inherent focus on production related land management objectives. Most (if not all) of the other case studies have some focus (to a greater or lesser degree) on conservation management. As such, it is unsurprising that the Monitor Farms case study has translated certain LUS Principles less comprehensively. Key Principles in this regard include Principle A on **multiple**

benefits (i.e. the focus of the case study is on production rather than wider multiple benefits), D on **ecosystem services**, E on **landscape change** and H on **outdoor recreation and access**. In essence, if a given land management activity doesn't have a commercial focus it is less likely to be considered within the activities of the Monitor Farms programme.

- 3.71 The corollary of this of course is that the more production/employment related LUS Principles have been translated fully. LUS Principle C on **primary use** has been translated fully, especially as farms are managed on an understanding of which areas are most appropriate for specific farming practices and areas. Principle J on **land use and the daily living link** has also been translated fully not least as the programme as a whole is intended to boost the competitiveness of the livestock sector.
- 3.72 LUS Principle H on **outdoor recreation and access** is considered to have not been translated at all. Whilst it is acknowledged that Principle H type issues are not a priority of the programme, there is considered to be significant scope for diversification in some areas into non-productive revenue streams (e.g. rural tourism activities, food processing and marketing etc).

North Harris Trust

- 3.73 As outlined at Table 2.4, 'on the ground' in the context of the North Harris Trust (NHT) case study has been interpreted as: *the decision-making process adopted by the North Harris Trust i.e. the degree to which and how the LUS Principles are considered when relevant decisions are made and then translated through subsequent action.*
- 3.74 The NHT 'on the ground' decision-making juncture has been met during the course of the LUS Delivery Evaluation Project and has been considered fully in the Research Question No.1 evaluation. More detailed information on the NHT 'on the ground' decision-making juncture is provided at Appendix 4 (paragraph 4.66 onwards) along with the detailed evaluation which includes an explanation of the rationale for each assessment. Figure 3.12 provides a summary of the Research Question No.1 evaluation for the NHT case study.

Key to translation 'on the ground'		A. Multiple benefits	B. Regulation	C. Primary use	D. Ecosystem services	E. Landscape change	F. Climate change	G. Vacant & derelict land	H. Outdoor recreation & access	I. Involving people	J. Land use & the daily living link
Yes											
To a degree			N/A					N/A			
No											
N/A	N/A										

Figure 3.12 North Harris Trust – summary of Research Question No.1 evaluation: translation of LUS Principles into decision-making 'on the ground'

- 3.75 Seven of the LUS Principles have been translated fully, one to a degree and two Principles are deemed to be non-applicable to the specific context. Accordingly, only eight of the LUS Principles are considered to be relevant to the NHT case study. However, there is no explicit mention of the LUS or the LUS Principles within the NHT case study materials reviewed as part of this research. As such, all consideration of the Principles is implicit rather than explicit. Consideration of the LUS and its Principles is being driven by the NHT Land Manager who has a background in agricultural policy as well as practical land management.
- 3.76 In common with other case studies (Buccleuch Estates and CALL) LUS Principle B on **regulation** and G on **VDL** are considered to be non-applicable to NHT's specific context. In terms of Principle B, none of the four translation routes are relevant in this context, apart from route No.3 perhaps (see paragraph 3.10 for further information) but this did not come across in the data or the evaluation. In terms of Principle G, the Trust publishes details of vacant crofts on their website but beyond this, VDL is not considered to be a significant issue on the island.
- 3.77 LUS Principle F on **climate change** has only been translated to a degree. The Trust consider climate change mitigation objectives in a range of their activities including raising awareness of damaging land management activities (e.g. peat cutting, muirburn etc), renewable energy development and community/household energy conservation projects (though this is less relevant to land use/management and the LUS). Crucially however, within the scope of the data and the evaluation, there is no clear consideration of climate change impacts or adaptation measures, hence why Principle F is only considered to have been translated to a degree.
- 3.78 Conversely, the remaining seven LUS Principles have all been translated fully. For example, given the nature of the project – i.e. the Trust manages one of the largest community owned estates in Scotland on behalf of its members – it is unsurprising that LUS Principle I on **involving people** and J on **land use and the daily living link** have been translated fully. In terms of Principle I, the Trust runs comprehensive public consultations for any proposals that is likely to be contentious. Other decisions and proposals are discussed in Board meetings which are open to all members of the Trust²⁶. Where there is dispute over the Trust's activities, the Trust endeavours to hold one on one meetings with the concerned party to better understand the nature of their concerns and to explain proposals in more detail – in essence there is a process of dialogue to try and resolve issues. In terms of Principle J, the Trust works closely with schools to try and ensure that traditional land management skills are retained within the younger generation. Also, efforts are made to highlight the importance and potential of land based employment opportunities.

²⁶ Lifetime membership of the Trust costs a nominal fee of £1

Galloway and Southern Ayrshire Biosphere

- 3.79 As outlined at Table 2.4, ‘on the ground’ in the context of the Galloway and Southern Ayrshire Biosphere (the Biosphere) case study has been interpreted as: *the scoping, development and subsequent implementation of actions emerging from the Biosphere Theme Groups i.e. the degree to which and how the LUS Principles are considered in Theme Group discussions and then translated through subsequent action*. The research has focussed specifically on the Biosphere’s getting the best from the land²⁷ Theme Group.
- 3.80 The Biosphere ‘on the ground’ decision-making juncture has been met in part during the course of the LUS Delivery Evaluation Project and has been considered as fully as possible in the Research Question No.1 evaluation. More detailed information on the Biosphere ‘on the ground’ decision-making juncture (and the degree to which this has been met during the course of this project) is provided at Appendix 4 (paragraph 4.72 onwards) along with the detailed evaluation which includes an explanation of the rationale for each assessment. Figure 3.13 provides a summary of the Research Question No.1 evaluation for the Biosphere case study.

Key to translation ‘on the ground’		A. Multiple benefits	B. Regulation	C. Primary use	D. Ecosystem services	E. Landscape change	F. Climate change	G. Vacant & derelict land	H. Outdoor recreation & access	I. Involving people	J. Land use & the daily living link
Yes											
To a degree											
No											
N/A	N/A										

Figure 3.13 Galloway and Southern Ayrshire Biosphere – summary of Research Question No.1 evaluation: translation of LUS Principles into decision-making ‘on the ground’

- 3.81 Six of the LUS Principles have been translated fully and four to a degree. Accordingly, all ten of the LUS Principles are considered to be relevant to the Biosphere case study. As outlined further at Appendix 4, the focus of the Biosphere evaluation has been on the **getting the best from the land** Theme Group and the Biosphere Partnership’s catchment scale stakeholder engagement approach to integrated land/water management planning in particular. This approach is very much based on the LUS and the literature on the approach includes explicit mention of the LUS and Scotland’s climate change legislation. There is also implicit reference to key LUS Principles including Principle A on **multiple benefits**, C on **primary use**, D on

²⁷ Getting the best from the land theme group pages:
<http://www.gallowayandsouthernayrshirebiosphere.org.uk/getting-the-best-from-the-land-23rd-february-2012/> [accessed 24/11/13]

ecosystem services, E on **landscape change**, F on **climate change** and I on **involving people**. Despite this, the wider consideration of LUS Principles elsewhere in the approach is more focussed on LUS Principle type issues (as opposed to the Principles themselves) and, as such, all consideration of the Principles is implicit rather than explicit.

- 3.82 The nature of the Biosphere Partnership's catchment scale stakeholder engagement approach is such that many of the LUS Principles have been considered fully. For example the approach's extensive use of catchment scale spatial data and spatial analysis and the inclusive, bottom-up approach to stakeholder engagement (including engagement with affected communities and individual land owners/farmers) is such that LUS Principles A, C and I have been considered fully. In particular, spatial data is a key input to integrated land use/management constraints and opportunities mapping which forms the basis of discussion between the various stakeholders.
- 3.83 Conversely, LUS Principle B on **regulation**, E on **landscape change**, G on **VDL** and H on **outdoor recreation and access** have only been considered to a degree. In terms of Principle G for example, whilst there is some reference to VDL issues within the materials reviewed – e.g. the *“legacy of industrial dereliction”* (Biosphere Partnership, 2012 p.9), there is no specific discussion or reference to how VDL sites might be utilised or an assessment of the area's VDL resource. As regards Principle E, whilst there are key strengths to the approach (e.g. the consideration of multiple scales from whole catchments to the site/field scale) there is no mention of specific tools or guidance that can be used to support landscape planning and management (e.g. Landscape Character Assessment) though underlying biophysical processes/features are considered (e.g. the relationship between geology, soils, land use/management and, ultimately, landscape).

Wildlife Estates Scotland

- 3.84 As outlined at Table 2.4, 'on the ground' in the context of the Wildlife Estates Scotland (WES) case study has been interpreted as: *the application and development of the WES accreditation process i.e. the degree to which and how the LUS Principles have been translated within the WES accreditation criteria/process and in decisions to approve the accreditation of applicant estates*.
- 3.85 The WES 'on the ground' decision-making juncture has been met during the course of the LUS Delivery Evaluation Project and has been considered fully in the Research Question No.1 evaluation. More detailed information on the WES 'on the ground' decision-making juncture is provided at Appendix 4 (paragraph 4.80 onwards) along with the detailed evaluation which includes an explanation of the rationale for each assessment. Figure 3.14 provides a summary of the Research Question No.1 evaluation for the WES case study.
- 3.86 Five of the LUS Principles have been translated fully, four to a degree and one Principle is deemed to be non-applicable to the specific context. Accordingly, only nine of the LUS Principles are considered to be relevant to the WES case study. Key WES documentation includes explicit reference to

the LUS though there is no explicit reference to individual LUS Principles. As such, all consideration of the Principles is implicit rather than explicit.

- 3.87 LUS Principle G on **VDL** is deemed to be non-applicable in this case. LUS Principle G type issues are not discussed within the accreditation paperwork and VDL is not felt to be a relevant issue for estate management in Scotland. Despite this, it may be the case, for example, that mineral extraction is a management objective on some estates. Where this is the case LUS Principle G may be more relevant though this wasn't apparent from the data or the evaluation.

Key to translation 'on the ground'		A. Multiple benefits	B. Regulation	C. Primary use	D. Ecosystem services	E. Landscape change	F. Climate change	G. Vacant & derelict land	H. Outdoor recreation & access	I. Involving people	J. Land use & the daily living link
Yes											
To a degree											
No											
N/A	N/A							N/A			

Figure 3.14 Wildlife Estates Scotland (WES) – summary of Research Question No.1 evaluation: translation of LUS Principles into decision-making 'on the ground'

- 3.88 LUS Principle A on **multiple benefits**, D on **ecosystem services**, F on **climate change**, H on **outdoor recreation and access** and J on **land use and the daily living link** have all been translated fully by the WES case study. Given the nature of the accreditation scheme it is unsurprising that Principle D has been translated fully. In particular, the concepts and language of ecosystem services and the ecosystems approach has been considered throughout the application form/as part of the general rationale for WES and certain land uses and habitats are framed in terms of benefits. In WES' case Principle F has been translated fully as the accreditation scheme considers both the mitigation and adaptation agendas – e.g. the carbon storage benefits of certain land management practices are discussed as are actions to reduce flood risk (i.e. an adaptation measure) such as river and floodplain restoration.
- 3.89 Of the LUS Principles that have only been translated to a degree, Principle E on **landscape change** and I on **involving people** perhaps stand out more than others due to the nature of the WES accreditation scheme. In terms of Principle E, the application form discusses specific landscape features and types of landscapes (e.g. farm and forest landscapes) though there is no specific treatment of landscape planning/management at different scales or reference to the use of specific tools to support landscape planning (e.g. the use of Landscape Character Assessment data or input from environmental assessment processes for major land use/management changes). In terms of

Principle I, there is consideration within the accreditation process of the extent to which estates are connected to and contribute to local communities though this is less about involving people in decision-making *per se* and more about the estate's contribution to the local economy.

Summary of key themes/issues identified

- 3.90 Each case study considered in the LUS Delivery Evaluation Project has been evaluated in terms of Research Question No.1 – i.e. *“have the high level LUS Principles been (implicitly or explicitly) translated into decision-making on the ground? And if they have, how well?”* To facilitate this evaluation, a specific ‘on the ground’ decision-making juncture has been defined for each case study as described in Chapter 2 (see Table 2.4 and paragraph 2.28 onwards). The sub-sections above provide a summary of the Research Question No.1 evaluation and detailed evaluation tables are provided at Appendix 4.
- 3.91 In terms of the relevance of the LUS Principles to the eleven case study land use delivery mechanisms, there were only a small handful of instances (when looking across the whole Research Question No.1 data set – see Figure 3.4) where an LUS Principle was considered not relevant in a given decision-making context. Additionally, this only applied to LUS Principle B on **regulation** and Principle G on **vacant and derelict land**. Further information on LUS Principle relevance is provided at paragraph 3.14 onwards.
- 3.92 As discussed extensively in the methodology Chapter (see paragraph 2.28 onwards), within the scope of this project, it has not been possible to consider case study decision-making processes that have resulted in practical action causing a tangible impact in terms of land use/management activity in the landscape (e.g. forest harvesting/planting, foot path maintenance, livestock density etc). Instead, the research defined case study specific decision-making junctures that have been construed as decision-making ‘on the ground’ for the purposes of the evaluation (see Table 2.4).
- 3.93 In this regard, there is evidence of LUS Principles having been translated ‘on the ground’ across all case studies and all Principles. Indeed the Principles were considered to have been translated ‘fully’ in more than half (57 out of 110) of the instances (i.e. when looking across the whole Research Question No.1 data set – see Figure 3.4) assessed and ‘to a degree’ in 42 out of 110 instances.
- 3.94 As a key overall finding therefore, it is important to highlight that the LUS Principles have been translated at least ‘to a degree’ in **99 of the 110 instances assessed**. As such, this finding suggests that **on the basis of the eleven case study land use delivery mechanisms considered, there may already be significant capacity to deliver sustainable land use, as per the requirements of the LUS, within Scotland’s existing land use delivery landscape**. There is, however, clearly still ‘room for improvement’ as LUS Principles were translated fully in only 57 of 110 instances (see paragraph 3.16). Also, it is crucial to stress that this finding is illustrative of land use delivery in Scotland (as opposed to definitive) as the research

findings are based on a non-statistically significant sample of case study land use delivery mechanisms.

- 3.95 As is evident on Figures 3.2 and 3.4 there were also a number of LUS Principles that were translated less well by the case studies. This is largely a function of the evaluation criteria used (see Appendix 1) and the way in which the criteria were imposed on the case studies i.e. the criteria are quite onerous and where case studies didn't meet the criteria they were considered to have not translated the Principle into decision-making 'on the ground' (see paragraph 3.3 onwards). In particular, LUS Principle B on **regulation**, F on **climate change**, G on **vacant and derelict land** and H on **outdoor recreation and access** were only translated to a degree by at least five of the eleven case studies.
- 3.96 The specific case of Principle F is discussed at paragraphs 3.21 and 3.22. Principle B was translated less well by a number of case studies as, although some efforts had been made to help streamline or support the delivery of existing regulation, the approaches used were either not comprehensive, not proven or both. This issue relates very much to the specific case of LUS Principle B as described at paragraph 3.10 onwards.
- 3.97 There were issues with the translation of Principle G on **vacant and derelict land** (VDL) for two main reasons. Firstly, two case studies simply didn't consider VDL even though there is a known VDL resource within the bounds of the study area²⁸. Secondly, a number of case studies included reference to VDL but did not consider some of the wider issues captured within the evaluation criteria e.g. an assessment of the VDL resource, designing the regeneration of VDL for the delivery of multiple benefits etc (see Appendix 1).
- 3.98 There were also issues in terms of Principle H on **outdoor recreation and access** for a number of reasons especially: 1) inconsistent consideration of LUS Principle H type issues within the framework of policies/projects considered as part of the case study evaluation; 2) the case study had focussed on only a small range of outdoor recreation activities where there was scope to consider more; 3) outdoor recreation and access issues had not been considered on a par with other criteria and has subsequently 'lost out' in integrated land use planning analyses; and 4) LUS Principle H type issues had simply not been considered. This latter issue is particularly significant in Scotland given the outdoor access rights afforded by the Land Reform (Scotland) Act 2003²⁹.

²⁸ However it is also important to consider significance criteria – i.e. how much VDL constitutes a 'significant' resource that should be considered, discussed and planned for?

²⁹ Scottish Outdoor Access Code – Your access rights pages: <http://www.outdooraccess-scotland.com/outdoors-responsibly/your-access-rights/> [accessed 01/05/14]

4 SITUATIONS IN WHICH THE LUS PRINCIPLES HAVE BEEN SUCCESSFULLY APPLIED

- 4.1 Research Question No.2 asks *“in what situations and how have the LUS Principles been successfully applied?”* In developing the response to this question, the research team have focussed on the ‘situation’ element as opposed to the ‘how’ element which has been considered comprehensively under Research Question No.3 (see Chapter 5).
- 4.2 The development of a comprehensive and reasoned response to Research Question No.2 is predicated on a comprehensive response to Research Question No.1 (see Chapter 3). In essence, it has been necessary to fully understand the degree to which the case studies have translated the LUS Principles ‘on the ground’ to then draw robust conclusions on how case study situation/context might be influencing this.
- 4.3 This Chapter includes a summary of the analysis approach used for the Research Question No.2 evaluation, a summary of the key characteristics and factors defining each of the case studies and consideration of specific questions in relation to situation/context and how this might be influencing translation of LUS Principles ‘on the ground’.

Analysis approach

- 4.4 The initial stage of the Research Question No.2 analysis involved an assessment of each case study to define them in terms of the specific situation/context characteristics considered in the research. Further information on the characteristics is provided below and at Appendix 5. This assessment was undertaken on the basis of all relevant case study information including semi-structured interviews and the document review (see Chapter 2 paragraph 2.9 onwards).
- 4.5 The location/degree of rurality characteristic was assessed on the basis of the Scottish Government Urban Rural Classification 2011-2012 (Scottish Government, 2012). Based on an understanding of the location of the eleven case studies across Scotland, this involved a broad-brush assessment, by eye, of the 8-fold urban/rural classification map (see Figure 4.1) in order to identify the class (or classes) of relevance to each case study. In this regard, the majority (eight) of the case studies fell into multiple classes.
- 4.6 Once the key characteristics of each case study have been defined as per the above, the Research Question No.1 dataset (see Chapter 3 and Figure 3.4 in particular) provided the basis for the Research Question No.2 analysis. In particular, the dataset shown at Figure 3.4 has been investigated by appraising the data relative to the various characteristics that have been used to define the case studies, as per Table 4.1.
- 4.7 In this manner, the Research Question No.1 dataset can be viewed through a variety of different situation/context ‘lenses’ to understand how these characteristics may be influencing the degree to which the case studies have

translated the LUS Principles 'on the ground'. For example, how does case study location/degree of rurality affect translation of LUS Principles, if at all?

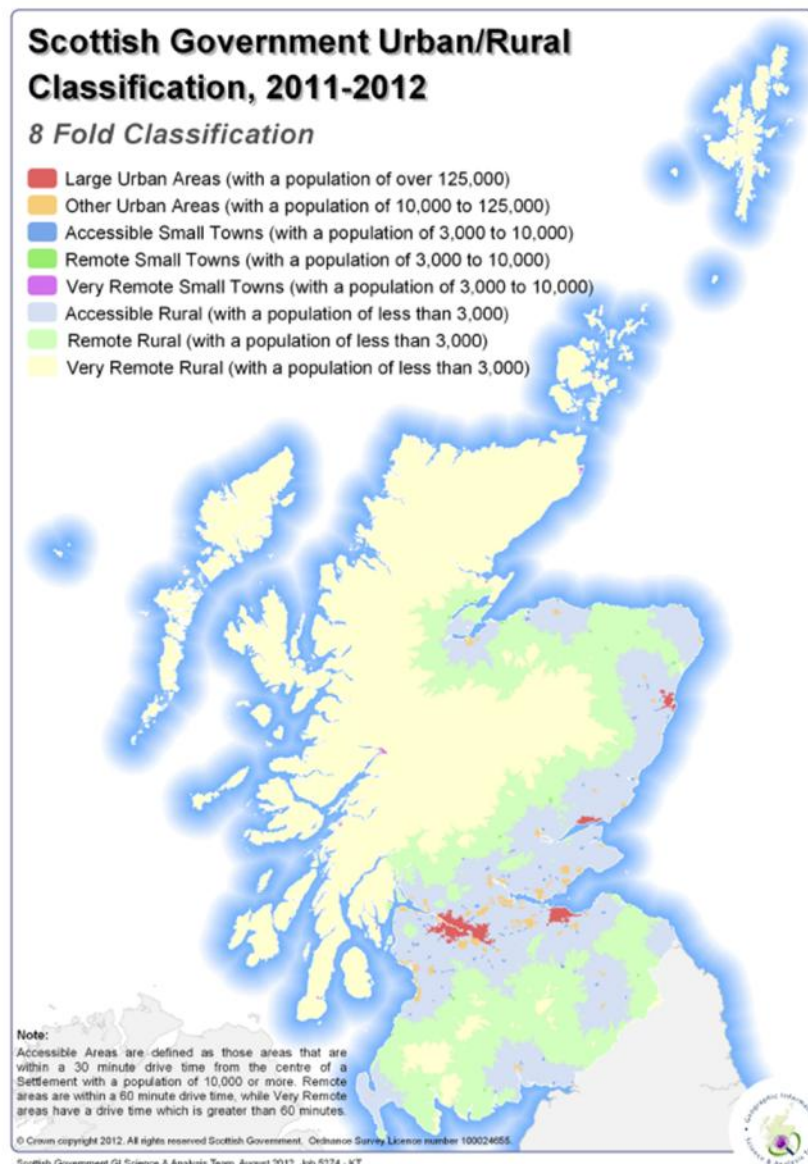


Figure 4.1 Scottish Government 8-fold urban/rural classification 2011-2012
 (Source: Scottish Government, 2012)

4.8 During the course of the project a number of hypotheses emerged concerning possible situation/contextual factors that could potentially influence the ability of land use delivery mechanisms to translate the LUS Principles into decision-making 'on the ground'. In particular, these hypotheses were identified through the data collection and analysis undertaken for Research Question No.1 and also through interviews with the case studies. In this regard, the following three key hypotheses emerged during the research and have been tested during the Research Question No.2 analysis:

- **Hypothesis 1:** formal *partnership working* with clear governance structures/arrangements can support the delivery of multiple benefits by helping to align the objectives and priorities of *multiple/diverse partners*

- **Hypothesis 2:** the greater the breadth of *land use/management activities and sectors* a case study is involved in, the greater the potential for the delivery of multiple benefits/translation of more LUS Principles
- **Hypothesis 3:** case studies operating at *broader scales* (i.e. greater spatial extents) and/or encompassing a greater *range of urban/rural classifications* are more likely to deliver multiple benefits and translate more of the LUS Principles in general

- 4.9 The scope of the Research Question No.1 dataset and the nature of the case study characteristics detailed at Table 4.1 are such that the possible lines of enquiry for the Research Question No.4 analysis are almost limitless (i.e. the different combinations of case study characteristics and LUS Principles that could be investigated).
- 4.10 In this regard, it was considered prudent (e.g. given the time and resource available for this project) for the Research Question No.4 analysis to maintain focus on the three key hypotheses that emerged through the data, as described above. An additional line of enquiry could, for example, have looked into whether or not the statutory basis³⁰ of the case study land use delivery mechanisms (see Table 4.1) has had any bearing over the degree to which LUS Principles have been translated.

Key characteristics of the case study land use delivery mechanisms

- 4.11 As per the above, the initial step in answering Research Question No.2 has focussed on identifying the various characteristics that define land use delivery mechanisms. As a starting point, these characteristics were based on the Scottish Government's criteria for scoping and then selecting case study land use delivery mechanisms for this research project.
- 4.12 These characteristics are generic and of relevance to any land use delivery mechanism but they have been imposed specifically on the eleven case studies considered in this research as part of the response to Research Question No.2.
- 4.13 The different categories of land use delivery mechanism characteristics are listed below. The comprehensive schedule of characteristics is provided at Appendix 5.
1. Location/degree of rurality (e.g. large urban area, accessible rural)
 2. Scale (national, regional, sub-regional, local)
 3. Rationale for spatial delineation of area encompassed by the land use delivery mechanism (e.g. existing administrative boundary, natural feature)
 4. Tenure/actors involved (e.g. public sector, private sector, third sector community based etc)
 5. Partnership based

³⁰ In this particular case, the statutory basis of case study land use delivery mechanisms was not investigated under the Research Question No.4 analysis as this criterion was only applicable to a small number of the case studies (Glasgow LDP and to a lesser degree the CSGN and two FWS case studies)

6. Breadth of activities/sectors (limited/<3, multiple/3-5, extensive >5)
 7. Details of specific activities/sectors covered (e.g. economy/economic development, transport, climate change, nature and landscape etc)
 8. Statutory basis (where relevant)
 9. Funding source (where relevant)
- 4.14 The characterisation of the eleven case study land use delivery mechanisms is summarised in Table 4.1. The comprehensive schedule of land use delivery mechanism characteristics is provided at Appendix 5. Appendix 6 provides further detail in terms of the breadth of activities/sectors covered (i.e. characteristic 6 – see above) by each case study as Table 4.1 only includes a summary in this regard.
- 4.15 The characterisation depicted in Table 4.1 provides the basis for exploring how issues relating to context/situation may be influencing the degree to which the case studies are translating the LUS Principles. As with all findings in this research however it is important to bear in mind that the findings here are representative of the eleven case studies considered in this research and not of the wider land use delivery landscape in Scotland.

Partnership working

- 4.16 Various data produced through this research suggest that formal partnership working with clear governance structures/arrangements can support the delivery of multiple benefits by helping to align the objectives and priorities of multiple/diverse partners.
- 4.17 For example the CSGN Vision document includes specific reference to working with a range of stakeholders as partners “...to achieve these ambitions we have to make sure that others share our vision including local government, health boards, urban regeneration companies, enterprise and tourism agencies, private sector, third sector and local communities” (CSGN Partnership Board, 2011a p.3). Similarly, a key premise of the CALL initiative is partnership working between landowners and local communities as enshrined within the CALL Programme Plan’s objectives and an underpinning value on ‘working in partnership’ (CALL, 2011).
- 4.18 Also, lessons from the research team’s wider experience of evaluating partnership based policy and process suggests that effective partnership working can be used to deliver benefits that are greater than the sum of the partnership’s individual parts. In particular, partnership working has the potential to: 1) engender a shared identity that all partners can get behind; and 2) facilitate shared leadership/ownership of process and decision-making (Cascade Consulting et al, 2013). A further obvious benefit of partnership working is pooling of resources (e.g. skills, finance, in-kind contributions etc), potentially contributing to the more effective delivery of shared priorities/objectives, supporting objectives for multiple benefits.

Table 4.1 Characterisation of the LUS Delivery Evaluation Project case study land use delivery mechanisms

Note: See Appendix 5 for a comprehensive schedule of the characteristics considered in the Research Question No.2 evaluation

Key to colour coding of certain land use delivery mechanism characteristics in Table of 4.1

Location/degree of rurality	Very remote rural	Primarily accessible and remote rural		
Scale	Regional	Sub-regional	Sub-regional/local	Local (farm level)
Partnership based	Yes	To a degree	No	
Breadth of activities/sectors	Extensive (>5)	Multiple (3-5)	Limited (<3)	

Case study	Location/degree of rurality	Scale	Rationale for spatial delineation	Tenure/actors involved	Partnership Based ³¹	Breadth of activities/sectors	Activities/sectors (see Appendix 5 for further detail)	Statutory basis	Funding source
Buccleuch Estates	Accessible rural/remote rural ³²	Sub-regional/local	Based on existing land ownership boundaries	Private sector	No	Limited (<3)	<ul style="list-style-type: none"> Economy/economic development Nature and landscape 	No	Private/revenue based
Central Scotland Green Network (CSGN)	All classes except for: 1) very remote rural; and 2) very remote small towns	Region	Based on existing admin. Boundaries	Strategic decision-making primarily public sector. Resultant delivery actions draw on input from all sectors	Yes	Multiple (3-5)	<ul style="list-style-type: none"> Economy/economic development Transport Climate change Nature and landscape Community development/health 	Yes/national development within the NPF	Public, private and voluntary
Coigach Assynt Living Landscape (CALL)	Very remote rural	Sub-regional	Based on existing land ownership boundaries though these	Private sector, third sector and community based	Yes	Multiple (3-5)	<ul style="list-style-type: none"> Economy/economic development Transport Climate change Nature and 	No	Public, private and voluntary

³¹ Further information on the definition of partnership working adopted in this research is provided at Appendix 5

³² Based on the location of the Queensberry Estate – i.e. the focus of the Buccleuch Estates case study in this research

Case study	Location/ degree of rurality	Scale	Rationale for spatial delineation	Tenure/ actors involved	Partnership Based ³¹	Breadth of activities/ sectors	Activities/sectors (see Appendix 5 for further detail)	Statutory basis	Funding source
			broadly form a cohesive landscape ³³	partners			landscape <ul style="list-style-type: none"> Community development/health 		
Dee Catchment Partnership (DCP) Business Plan	All classes except for: 1) very remote small towns	Region	Based on natural systems: water catchments	Public/private/third sector	Yes	Extensive (>5)	<ul style="list-style-type: none"> Effectively all sectors/activities 	No	Public, private and voluntary
Glasgow LDP	Large urban area	Sub-regional	Existing admin. boundary – Local Authority area	Public sector	To a degree	Multiple (3-5)	<ul style="list-style-type: none"> Economy/economic development Transport Climate change Nature and Landscape Community development/health 	Yes	Public, private and voluntary
Forest and Woodland Strategies (FWS): 1) Perth and Kinross; and 2) Stirling and Clackmannanshire	All classes except for: 1) large urban area and; 2) very remote small towns	Region	Existing admin. boundary – Local Authority area	Public sector led but with input from others including private sector	To a degree	Multiple (3-5)	<ul style="list-style-type: none"> Economy/economic development Transport Climate change Nature and landscape Community development/health 	Potentially ³⁴	Public, private and voluntary
LLTNP	All classes	Region	Existing	The LLTNP/	Yes	Extensive	<ul style="list-style-type: none"> Effectively all 	No	Public,

³³ Heavily influenced by the underlying geology of Torridonian sandstone and Lewisian gneiss, the area encompassed by the CALL project is also broadly akin to the Assynt-Coigach National Scenic Area: <http://www.snh.gov.uk/docs/B699728.pdf> [accessed 07/03/14]

³⁴ Planning authorities are encouraged to adopt FWS as supplementary guidance to SDPs and LDPs – in this regard they may become material considerations in relevant planning decisions: [http://www.forestry.gov.uk/pdf/fcfc129.pdf/\\$FILE/fcfc129.pdf](http://www.forestry.gov.uk/pdf/fcfc129.pdf/$FILE/fcfc129.pdf) [accessed 07/03/14]

Case study	Location/ degree of rurality	Scale	Rationale for spatial delineation	Tenure/ actors involved	Partnership Based ³¹	Breadth of activities/ sectors	Activities/sectors (see Appendix 5 for further detail)	Statutory basis	Funding source
National Park Partnership Plan	except for: 1) large urban area; and 2) very remote small towns		admin. boundary – National Park area	NPPP are public sector driven but involving a wide range of partners		(>5)	sectors/activities		private and voluntary
Monitor Farms	Primarily accessible and remote rural ³⁵	Local (farm level)	Based on land ownership boundaries	Private sector (farmers)	No	Limited (<3)	<ul style="list-style-type: none"> Commercial agriculture 	No	Private
North Harris Trust (NHT)	Very remote rural	Sub- regional	The area of land within community ownership	Community based	To a degree – the Trust uses various partners for specific projects	Multiple (3-5)	<ul style="list-style-type: none"> Economy/economic development Transport Climate change Nature and landscape Community development/health 	No	Public, private and voluntary
Galloway and Southern Ayrshire Biosphere	All classes except for: 1) large urban area and; 2) very remote small towns	Region	Biogeographic region based on linked water catchments	All	Yes	Extensive (>5)	<ul style="list-style-type: none"> Effectively all sectors/activities 	No	Public, private and voluntary
Wildlife Estates Scotland	Primarily accessible, remote and	Sub- regional/ local	Based on land ownership boundaries	Private sector/any party	No	Multiple (3-5)	<ul style="list-style-type: none"> Economy/economic development Climate change 	No	Public and private

³⁵ This will be dependent on farm/estate type – e.g. hill farming in the Less Favoured Area (LFA) would be largely remote rural/very remote rural whereas dairy farming in Galloway could be within the accessible rural area

Case study	Location/ degree of rurality	Scale	Rationale for spatial delineation	Tenure/ actors involved	Partnership Based ³¹	Breadth of activities/ sectors	Activities/sectors (see Appendix 5 for further detail)	Statutory basis	Funding source
(WES)	very remote rural ³⁶			involved in game and wildlife management			<ul style="list-style-type: none"> Nature and landscape 		

- The coloured columns in the Table above highlight data relevant to the specific themes and hypotheses that have been investigated through the Research Question No.2 analysis, as outlined in the analysis approach section at the start of this Chapter. The coloured highlighting in the location/degree of rurality indicates case studies that have been classified as either very remote rural (dark red) or a mixture of accessible, remote and very remote rural (pale pink)

³⁶ Ibid

Key to translation 'on the ground'	Case study land use delivery mechanisms										
	Yes										
	To a degree										
	No										
	N/A										
LUS Principles	Buccleuch Estates WEDP	Central Scotland Green Network (CSGN)	Colgach Assynt Living Landscape (CALL)	Dee Catchment Partnership	Glasgow Local Development Plan ²	Forestry and Woodland Strategies ³	LLTNP National Park Partnership Plan	Monitor Farms Programme	North Harris Trust	Galloway and Southern Ayrshire Biosphere	Wildlife Estates Scotland
A. Multiple benefits					?	?					
B. Regulation	N/A		N/A		?	?			N/A		
C. Primary use					?	?					
D. Ecosystem services					?	?					
E. Landscape change					?	?					
F. Climate change					?	?					
G. Vacant & derelict land	N/A		N/A		?	?			N/A		N/A
H. Outdoor recreation & access					?	?					
I. Involving people					?	?					
J. Land use & the daily living link					?	?					

Figure 4.2 Relationship between partnership working and translation of LUS Principle A on multiple benefits

- Solid red lines indicate case studies where land use/management is predicated on partnership working
- Dashed red lines indicate case studies where partnership based approaches are utilised to a degree but are not considered to provide the overall basis for the case study's land use/management activities
- Case studies that are not highlighted in red have not considered partnership working at all
- Please refer to Figure 3.4 for explanation of the rationale for scoring the Glasgow LDP and FWS case study Research Question No.1 evaluations (indicated by a ? on the Figure above)

4.19 Figure 4.2 highlights the relationship between partnership working based approaches to land use/management and translation of LUS Principle A on **multiple benefits**. As indicated on Figure 4.2, based on the case study sample considered in this research, there appears to be the relationship between partnership working and translation of Principle A is quite mixed³⁷. In particular all three of the case studies where land use/management activity is only partially based on partnership working have translated LUS Principle A fully. Equally, the CALL case study, which is considered to have adopted a comprehensive approach to partnership working, has only translated LUS Principle A to a degree. Conversely, two of the three case studies (Buccleuch Estates and Monitor Farms) that do not adopt partnership based approaches to their land use/management activities have only translated LUS Principle A to a degree.

³⁷ That said, the approach taken to characterising case studies that are adopting a partnership based approach has been relatively simplistic. For example, the partnership working approaches adopted by the case studies indicated at Figure 4.2 will no doubt include a range of subtle variations that have not been captured within this research. In essence, the situation will undoubtedly be more complex than that presented in the analysis above

- 4.20 Despite the fact that the findings of this research indicate that there are no strong links between partnership working and translation of LUS Principle A, effective partnership working can have key benefits for land use/management activity, as outlined above. A specific question on partnership working was posed to three of the case studies who are considered to have adopted a comprehensive approach to partnership working. As is evident from the below, partnership working is clearly a key component of these organisations' overall approach to meeting their objectives (including objectives for land use/management).
- 4.21 Question posed to case studies that have adopted a comprehensive approach to partnership working: *what does partnership or collaborative working mean to you/your organisation?*
- *"Partnership working is both desirable and essential if we are to realise the CSGN Vision. Collaboration is written throughout the Vision document"* (Sue Evans, CSGN Head of Development, February 2014)
 - *"It means combining the experience and strengths of the various partners to ensure a good outcome for the area. It helps with creating understanding between partners with varying aims and objectives. It leads to all sorts of positive things which were not expected!"* (Viv Halcrow, CALL Project Manager, February 2014)
 - *"Without partnership the Biosphere would not exist. It cannot function as some independent authority as it would have no authority even though it is a Scottish Charitable Incorporated Organisation (SCIO). We purposely set up the entity as a partnership to recognise that many different interests should be involved: government departments, government agencies, local councils, independent groups representing business interests, local communities and scientific and academic interests. All have equal status in terms of the constitution"* (Roger Crofts, Chair of the Biosphere Partnership Board, February 2014)

Activities/sectors covered

- 4.22 Similarly to partnership working, there was a suggestion from the data produced through this research that the greater the breadth of land use/management activities and sectors a case study is involved in, the greater the potential for the delivery of multiple benefits/translation of more LUS Principles.
- 4.23 In essence this is quite intuitive – i.e. the more activities/sectors addressed by a case study, the more stakeholders involved and the more objectives for land use/management activities considered. Figure 4.3 highlights case studies involved in less than three activities/sectors in terms of the criteria³⁸ (Buccleuch Estates and Monitor Farms) and case studies involved in more than five (Dee Catchment Partnership, LLTNP Partnership Plan and the Biosphere). Case studies involved in 3-5 activities/sectors have been left out

³⁸ See Appendices 5 and 6 for further information on the criteria used to define the case study characteristics outlined at Table 4.1

to focus the analysis on the two extremes – i.e. limited and extensive breadth of activities/sectors.

Key to translation 'on the ground'		Case study land use delivery mechanisms										
Yes												
To a degree												
No												
N/A	N/A											
LUS Principles		Buccleuch Estates WEDP ¹	Central Scotland Green Network (CSGN)	Colgach Assynt Living Landscape (CALL)	Dee Catchment Partnership	Glasgow Local Development Plan ²	Forestry and Woodland Strategies ³	LLTNP National Park Partnership Plan	Monitor Farms Programme	North Harris Trust	Galloway and Southern Ayrshire Biosphere	Wildlife Estates Scotland
A. Multiple benefits						?	?					
B. Regulation		N/A		N/A						N/A		
C. Primary use												
D. Ecosystem services												
E. Landscape change						?	?					
F. Climate change						?	?					
G. Vacant & derelict land		N/A		N/A		?	?			N/A		N/A
H. Outdoor recreation & access						?	?					
I. Involving people						?	?					
J. Land use & the daily living link						?	?					

Figure 4.3 Relationship between breadth of activities/sectors covered and delivery of multiple benefits/translation of multiple LUS Principles

- Solid red lines indicate case studies that address an extensive (>5) breadth of activities/sectors
- Dashed red lines indicate case studies that address a limited (<3) breadth of activities/sectors
- Please refer to Figure 3.4 for explanation of the rationale for scoring the Glasgow LDP and FWS case study Research Question No.1 evaluations (indicated by a ? on the Figure above)

4.24 The Figure highlights the degree to which LUS Principle A on **multiple benefits**, D on **ecosystem services**, E on **landscape change**, F on **climate change** and H on **outdoor recreation and access** have been translated. In essence, these five Principles are used as proxies³⁹ for land use/management benefits or functions e.g. LUS Principle D on ecosystem services could represent designated natural heritage sites, ecological networks and the equitable climate (carbon storage) ecosystem services provided by peat/carbon rich soils for example. The more LUS Principles translated, the greater the potential for the delivery of multiple benefits from land use/management.

4.25 Figure 4.4 amends Figure 4.3 to show only instances where the case studies have translated LUS Principles A, D, E, F and H **fully**. This has the effect of reducing the number of LUS Principles across all case studies except for the FWS which has translated all five Principles fully. It also has the effect of completely removing the Monitor Farms case study which had only translated

³⁹ Recognising that LUS Principle A is a specific representation of a multiple benefits objective for land use/management

the selected Principles to a degree. The Buccleuch Estates case study has only translated one of the five Principles. The Monitor Farms and Buccleuch Estates case studies address only a limited breadth of activities/sectors (<3).












Key to translation 'on the ground'		Case study land use delivery mechanisms										
Yes												
To a degree												
No												
N/A	N/A											
LUS Principles		Buccleuch Estates WEDP	Central Scotland Green Network (CSGN)	Colgach Assynt Living Landscape (CALL)	Dee Catchment Partnership	Glasgow Local Development Plan	Forestry and Woodland Strategies	Loch Lomond National Park Partnership Plan	Monitor Farms Programme	North Harris Trust	Galloway and Southern Ayrshire Biosphere	Wildlife Estates Scotland
A. Multiple benefits		<div>Case studies involved in >5 activities/sectors</div>				?	?					
B. Regulation	N/A					?	?				N/A	
C. Primary use												
D. Ecosystem services												
E. Landscape change												
F. Climate change												
G. Vacant & derelict land	N/A		N/A			?	?			N/A		N/A
H. Outdoor recreation & access						?	?					
I. Involving people						?	?					
J. Land use & the daily living link						?	?					

Figure 4.4 Relationship between breadth of activities/sectors covered and delivery of multiple benefits/translation of multiple LUS Principles – fully translated Principles only

- The yellow dashed line groups the three case studies (DCP, FWS and Biosphere) that address an extensive (>5) breadth of activities/case studies
- Of the two case studies that address a limited (<3) breadth of activities/sectors, only Buccleuch Estates remains after a sieve of the data to remove LUS Principles that have only been translated to a degree
- Please refer to Figure 3.4 for explanation of the rationale for scoring the Glasgow LDP and FWS case study Research Question No.1 evaluations (indicated by a ? on the Figure above)

4.26 As is evident from Figure 4.4, the data suggests that the greater the breadth of activities/sectors covered by a case study, the greater the delivery of multiple benefits/translation of multiple LUS Principles observed in the data. This finding supports hypothesis 2 (outlined at paragraph 4.8).

Location/degree of rurality and scale

4.27 Five of the case studies considered in this research are of a scale (spatial extent) such that they encompass a broad range of classes from the Scottish Government's Urban Rural Classification (Scottish Government, 2012). These are CSGN, DCP, FWS, LLTNP Partnership Plan and the Biosphere. Other case studies fall into one or two of the classes, either because they are located in very remote rural parts of Scotland (CALL and NHT) or because the area of land encompassed (spatial extent) by the case study is relatively small (Glasgow LDP, Buccleuch Estates and Monitor Farms). As such, case study

location/degree of rurality provides a useful 'lens' with which to view the Research Question No.1 data to see if any trends emerge in terms of the degree to which this specific situation/context factor may be influencing translation of LUS Principles.

- 4.28 Figure 4.5 shows translation of LUS Principles by individual case study. For the five case studies that encompass a broad spatial area all ten LUS Principles are considered to be relevant. Furthermore, with the exception of the DCP case, these case studies have translated at least half of the LUS Principles fully whilst both the FWS and LLTNP Partnership Plan cases have translated eight of the Principles fully. Conversely, in four of the five case studies that fall into a much narrower band of urban/rural classification, at least one of the LUS Principles is deemed to be non-applicable, given the specific context.

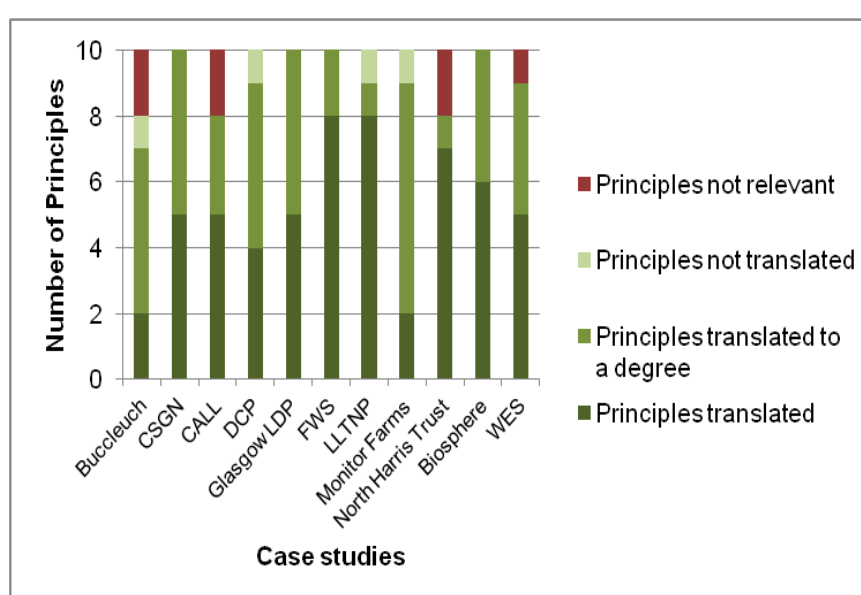


Figure 4.5 Degree to which individual case studies have translated the LUS Principles into decision-making 'on the ground'

- For the two case studies that did not reach their specific 'on the ground' decision-making juncture during the lifetime of the LUS Delivery Evaluation Project (the Glasgow LDP and the two FWS – see Table 2.4), the Figure above includes Research Question No.1 process issue data only (see Appendix 1). This is for the purposes of illustration
- 4.29 From the eleven case studies considered in this research therefore, the findings suggest that a broader range of LUS Principles (if not the full suite) are likely to be relevant to land use delivery mechanisms that encompass a broader spatial area. Again, this finding is quite intuitive – in essence, the greater the area of land encompassed by a given land use delivery mechanism, the greater the range of land uses and potential land management objectives likely to be present/available. A key example in this regard is LUS Principle G on VDL – i.e. unless VDL is present this Principle is likely to be non-applicable (see Figure 4.6).
- 4.30 Also, it may be the case, for example, that case studies covering a broad spatial area encompassing many different land uses have more expertise/experience in managing land for a diverse range of objectives. In

this regard, these case studies are perhaps better placed and resourced (e.g. in terms of experience, methods and approaches etc) to translate the full suite of LUS Principles into decision-making 'on the ground'. This is borne out by the data to a degree although the CALL and Glasgow LDP case studies, both of which fall into only one of the urban/rural classes, both translated half of the Principles fully.

- 4.31 Specific consideration of the more rural, smaller spatial extent case studies highlights some interesting themes with regard to the discussion above. Figure 4.6 highlights the translation of LUS Principles 'on the ground' for case studies where the urban/rural classification is either **very remote rural** (CALL and NHT) or a combination of **accessible rural** and **remote rural** (Buccleuch Estates, Monitor Farms and WES⁴⁰). This is in contrast to the other five case studies which are all of a scale (in terms of spatial extent) such that they encompass most of the urban/rural classifications.
- 4.32 The LUS' third objective is for *"urban and rural communities better connected to the land, with more people enjoying the land and positively influencing land use"* (Scottish Government, 2011a p.3). This is linked specifically to LUS Principle I on **involving people** and J on **land use and the daily living link**. A key driver for this objective and Principles is the concern that the population is becoming disconnected with the natural environment. This is seen as a particular issue for urban populations and for children and young people especially (Stewart and Costley, 2013).
- 4.33 The corollary of this however is that rural populations are somehow more connected to the land and the natural environment, perhaps through its greater immediacy and the greater opportunity for ready access afforded by this immediacy. Another relevant issue is the nature of employment opportunities in rural areas which are often more land based. This hypothesis is borne out in the findings from this research (recognising the limitations of the case study based approach as discussed elsewhere). In particular, Figure 4.6 highlights how in all but one of the more rural case studies, LUS Principle J has been translated fully into decision-making 'on the ground'.
- 4.34 In addition however, three of the case studies that encompass most of the urban/rural classifications have also translated LUS Principle J fully (FWS, LLTNP Partnership Plan and Biosphere). Crucially, all of three of these case studies encompass significant areas of more rural character (including **very remote rural**) so similar issues may apply. In contrast, the three case studies that encompass areas of land classified as **large urban area** (CSGN, DCP and Glasgow LDP) have only translated LUS Principle J to a degree e.g. given the scope of the issues faced within these areas, it may be the case that this Principle is less of a priority compared to say Principle E on **landscape change** or G on **VDL**.
- 4.35 In the case of the CALL initiative for example, LUS Principle J type issues are inherent to the overall approach and philosophy as the area's iconic

⁴⁰ Noting that for the Monitor Farms and WES case studies this classification is an estimation as discussed further at Table 4.1

landscape and its management are key to much of the area's economic activity. In this sense the 'link to the land' is about more than just the role of the land in some abstract sense – the CALL area landscape is fundamental to the livelihood of its communities. The vision, for example, suggests that the landscape and biodiversity aims of the project can be met “[through the] creation of local employment and training opportunities, and, building on the communities strong cultural heritage linked to the land” (CALL, 2011 p.3).

Key to translation 'on the ground'	Case study land use delivery mechanisms										
	Yes	To a degree	No	N/A	N/A						
LUS Principles	Buccleuch Estates WEDP	Central Scotland Green Network (CSGN)	Colgach Assynt Living Landscape (CALL)	Dee Catchment Partnership	Glasgow Local Development Plan	Forestry and Woodland Strategies	Loch Lomond National Park Partnership Plan	Monitor Farms Programme	North Harris Trust	Galloway and Southern Ayrshire Biosphere	Wildlife Estates Scotland
A. Multiple benefits					?	?					
B. Regulation	N/A		N/A		?	?			N/A		
C. Primary use					?						
D. Ecosystem services					?						
E. Landscape change					?						
F. Climate change					?	?					
G. Vacant & derelict land	N/A		N/A		?	?			N/A		N/A
H. Outdoor recreation & access					?	?					
I. Involving people					?	?					
J. Land use & the daily living link					?	?					

Figure 4.6 Translation of LUS Principles into decision-making 'on the ground' – focus on rural case studies

- Solid red lines indicate case studies that are classified as very remote rural in terms of the Scottish Government urban/rural classification 2011-2012
- Dashed red lines indicate case studies that are classified as both accessible rural and remote rural in terms of the Scottish Government urban/rural classification 2011-2012
- The yellow dashed line highlights translation of specific LUS Principles in relation to these five more rural case studies

4.36 LUS Principle G on VDL was deemed to be non-applicable in four of the eleven case studies. As indicated on Figure 4.6, all four of these instances were in case studies of a more rural character, including the two defined as **very remote rural** in terms of the Scottish Government's classification. As discussed above, this is entirely intuitive as without a VDL resource of which to speak, the Principle is of little or no relevance.

Summary of key themes/issues identified

4.37 Research Question No.2 asks “in what situations and how have the LUS Principles been successfully applied”? This question is directly related to Research Question No.1 – i.e. by understanding where the LUS Principles have been translated into decision-making 'on the ground' it has then been

possible to ask other questions of the data in relation to context/situational factors – i.e. what are the characteristics that might be defining a case study's ability to translate the LUS Principles?

- 4.38 Table 4.1 defines the eleven case studies in terms of nine key land use delivery mechanism characteristics. This covers issues such as case study location/degree of rurality (i.e. how urban, rural, remote is the area of land encompassed by the case study), scale in terms of spatial extent (i.e. does the case study land use delivery mechanism cover a national, regional, sub-regional or local scale) and tenure/actors involved (i.e. is the case study led by the public sector, private sector, third sector or a mixture thereof). An analysis of the data in Table 4.1 gives a clear indication of the diversity of the eleven case studies considered in the research.
- 4.39 As discussed at paragraph 4.8, the approach taken to answering Research Question 2 has focussed on the testing of specific hypotheses that emerged from the data. The three hypotheses identified are listed below:
- **Hypothesis 1:** formal *partnership working* with clear governance structures/arrangements can support the delivery of multiple benefits by helping to align the objectives and priorities of *multiple/diverse partners*
 - **Hypothesis 2:** the greater the breadth of *land use/management activities and sectors* a case study is involved in, the greater the potential for the delivery of multiple benefits/translation of more LUS Principles
 - **Hypothesis 3:** case studies operating at *broader scales* (i.e. greater spatial extents) and/or encompassing a greater *range of urban/rural classifications* are more likely to deliver multiple benefits and translate more of the LUS Principles in general
- 4.40 The analysis documented in the sub-sections above tests these hypotheses. Hypothesis 1 on **partnership working** was not supported by the case studies although the wider benefits of partnership working, as outlined in the discussion at paragraph 4.18, are such that the approach is considered to be a useful means of land use delivery for several reasons.
- 4.41 Hypothesis 2 on the **breadth of land use/management activities** was supported by the case study data – case studies involved in a greater breadth of land use/management activities all translated LUS Principle A on **multiple benefits** fully as well as other key Principles including D on **ecosystem services**, E on **landscape change** and F on **climate change**.
- 4.42 Hypothesis 3 on case studies operating at **broader scales and/or encompassing a broader range of urban/rural classifications** was also supported by the case studies. For example, for the five case studies that encompass a broad spatial area, all ten LUS Principles were considered to be relevant and, with the exception of the DCP case study, these five case studies translated at least half of the LUS Principles fully, including LUS Principle A on **multiple benefits**.

5 METHODS AND APPROACHES USED TO APPLY THE LUS PRINCIPLES

- 5.1 Research Question No.3 asks *“what methods and approaches are working well, and not so well, and why? What successful aspects might be applied more generally across Scotland in a range of different circumstances?”* Chapter 2 provides further information on the evaluation framework and the research questions.
- 5.2 The development of a comprehensive and reasoned response to Research Question No.3 is predicated on a comprehensive response to Research Question No.1 (see Chapter 3). In essence, it has been necessary to fully understand the degree to which the case studies have translated the LUS Principles ‘on the ground’ to then draw robust conclusions on which methods and approaches might be working well/less well.
- 5.3 This Chapter includes a summary of the analysis approach used for the Research Question No.3 evaluation and a summary of the methods and approaches, identified through the research, that have potential to support the translation of the strategic LUS Principles into practical land use/management decision-making ‘on the ground’. Each method/approach identified is linked to relevant LUS Principles that it could potentially help to translate as well as to the case studies from this research that have used the method/approach.

Analysis approach

- 5.4 The Research Question No.3 analysis approach involved three main steps which are detailed below:
- **Step 1:** Analysis of all primary and secondary data produced/gathered during the LUS Delivery Evaluation Project (i.e. interview notes/transcripts, document review, Research Question No.1 evaluations etc) to identify methods and approaches that the eleven case study land use delivery mechanisms have utilised
 - **Step 2:** Categorising methods and approaches from Step 1 in terms of LUS Principle relevance. In essence this step identifies which Principles the methods and approaches have a strong/less strong relationship with – i.e. where the relationship is strong, the method or approach is considered to have greater utility in terms of helping to translate the LUS Principle into decision-making ‘on the ground’
 - **Step 3:** Analysis of methods and approaches from Step 1 to identify areas of overlap, differences and similarities to produce a consolidated list of methods and approaches and to identify potential groupings or categories
- 5.5 Steps 1 and 3 identify the range of methods/approaches evidenced by the eleven case study land use delivery mechanisms and also the frequency of their occurrence i.e. some methods/approaches have been used by several case studies whereas others have only been put into practice by one or two.

Accordingly, one **potential** conclusion that can be drawn from this data is that the greater the number of case studies that have used a given method or approach, the greater its potential utility for translating LUS Principles into action 'on the ground'. The strengths, weaknesses and limitations of this finding are discussed further in the synthesis section at the end of this Chapter, especially paragraphs 5.88 and 5.89.

Summary of key methods/approaches identified

- 5.6 Through the Research Question No.3 Step 1 analysis described above, 20 individual methods and approaches were identified from the LUS Delivery Evaluation Project dataset. Via Step 3, these were then grouped into seven broad categories of method/approach that may have some utility helping to translate the strategic LUS Principles into decision-making 'on the ground'. These categories are as follows:
- Spatial analysis
 - Environmental assessment
 - Ecosystem services
 - Partnerships and governance
 - Engagement and awareness raising
 - Planning and design
 - Grants and incentives
- 5.7 The remainder of this Chapter describes each of these broad categories in turn including more detailed information, where relevant, of specific methods and approaches used by the case studies. Additional information includes: 1) reference to tools, skills and data that may be required; and 2) suggestion of the LUS Principles that the method/approach could help to translate. The detailed Research Question No.1 evaluation in Appendix 4 provides further, case study specific information, including illustrative diagrams and figures, on the various methods/approaches outlined in this Chapter.

Spatial analysis

- 5.8 Given the inherently spatial nature of land use/management planning it is unsurprising that several of the case studies have used spatial analysis and spatial data to varying degrees in their activities. For the most part, spatial analysis has been facilitated through the use of Geographic Information Systems (GIS). The research has identified three specific methods/applications of **spatial analysis** in land use/management planning. These are detailed in Table 5.1 along with links to relevant LUS Principles and the case studies that have utilised the specific methods.

Mapping core areas of primary land to delineate a land use/management framework

- 5.9 The Buccleuch Estates WEDP and Biosphere case studies both used spatial datasets pertaining to key primary land uses to delineate a land use/management framework for a defined management unit. In the case of

the former the management unit was an estate and in the latter it was a water catchment (the River Doon).

Table 5.1 Spatial analysis – specific methods/approaches identified through the research

Method/approach	Strongly relevant LUS Principles	Less strongly relevant LUS Principles	Case studies that have used the method/approach
Mapping core areas of primary land use to delineate a land use/management framework	C	A, D, E and F	<ul style="list-style-type: none"> • Buccleuch Estates • Biosphere
Use of spatial analysis and spatial datasets to define constraints for land use/management	A and C	D, E, F and H	<ul style="list-style-type: none"> • Buccleuch Estates • Biosphere • FWS • CSGN • CALL
Use of spatial analysis and spatial datasets to identify opportunities for land use/management to deliver multiple benefits	A, D, E, F and H	J	<ul style="list-style-type: none"> • Biosphere • FWS • CSGN • CALL • Glasgow LDP

- 5.10 The primary land uses mapped are such that they are of overriding importance for management – e.g. in the case of Buccleuch, key primary land uses were the Estate’s core heritage area around the historic castle and areas of high value land for agriculture/land capable of supporting arable agriculture i.e. Macaulay Land Capability for Agriculture⁴¹ (LCA) Classes 1 – 3.1.
- 5.11 In essence, these key areas of primary land use provide a core land use framework that is then protected and managed for primary objectives. Areas of land outwith these core areas may be more flexible in terms of capacity for land use/management change for different objectives and/or for the delivery of multiple benefits. Where GIS is used to support this sort of approach, sensitivity analysis can be used to explore the land use implications of altering primary use parameters/thresholds e.g. permitting agro-forestry on more marginal arable agriculture land (LCA Class 2.5 – 3.1 for example).
- 5.12 The Biosphere case study used extant policy objectives/targets to guide the consideration of core areas of primary land use. For example, policy objectives on climate change (as a proxy for peat/carbon rich soils) and forestry (i.e. afforestation targets) were used to scope out areas of land where existing use/management should be retained (e.g. deep peat).

Use of spatial analysis/datasets to define constraints for land use/management

- 5.13 Several of the case studies used spatial analysis to define constraints for land use/management as an initial stage of their planning activities. Constraints in this regard included **biophysical** (e.g. the Biosphere case study considered the potential implications of catchment geology for land management options), **political** (e.g. the Biosphere case study considered how policy objectives for

⁴¹ The Macaulay Land Use Research Institute (2013) LCA pages: <http://www.macaulay.ac.uk/explorescotland/lca.html> [accessed 10/03/14]

afforestation might impact other land use/management options), **legal** (e.g. both FWS case studies considered how the spatial distribution of statutory conservation designations might impact their spatial planning for preferred, potential and sensitive areas for forestry) and **practical** (e.g. issues relating to access, slope, ground conditions, infrastructure requirements etc can constrain certain land uses such as forestry). Constraints/sensitivities mapping from the two FWS case studies are shown at Figure 5.1.

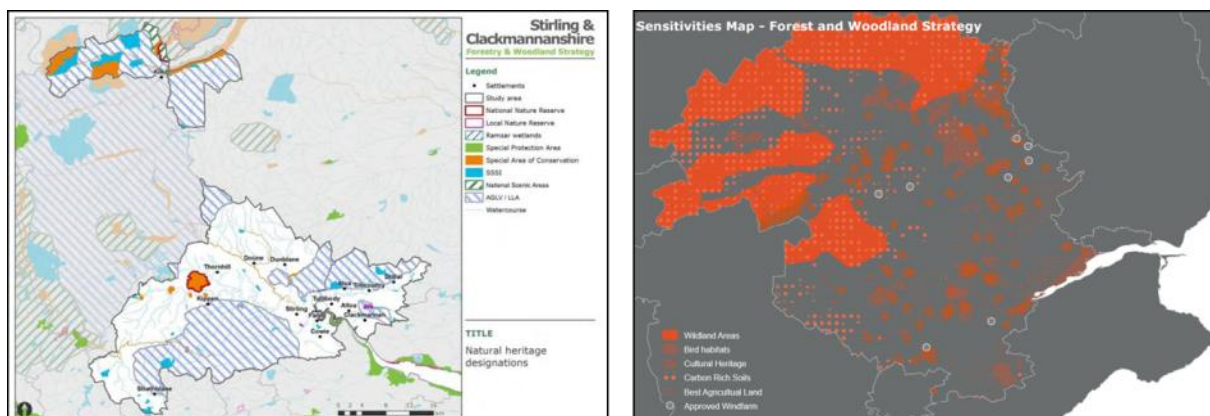


Figure 5.1 FWS constraints/sensitivities maps

(Source: Stirling and Clackmannanshire Councils, 2012; Perth and Kinross Council, 2013c)

- The Figure above shows how spatial analysis has been used to help identify key constraints to forest development in the Stirling and Clackmannanshire FWS (left hand map) and Perth and Kinross FWS (right hand map)
- Stirling and Clackmannanshire's approach identifies key international, European, national and local level natural heritage designations. These are important primary land uses where woodland creation is likely to be inappropriate (or at least less appropriate)
- The Perth and Kinross approach identifies a broader range of constraints/primary land uses including wild land and peat/carbon rich soils. Crucially, much of the strategy area is comprised of these land uses as shown on the right-hand map above – red areas are wild land and the grid of red squares is peat/carbon rich soils. These are both important primary land uses providing a range of ecosystem services. Both of these land uses can be negatively affected by poorly sited and poorly designed woodland creation projects⁴²

5.14 Within the overall approach of using spatial analysis to define constraints for land use/management, several potentially useful and interesting approaches were identified from individual case studies. These included:

- **Exploiting opportunity areas in heterogeneous landscapes:** The use of fine grained constraints data for more heterogeneous landscapes to support the development of detailed land use/management plans that can be fully integrated with the landscape (FWS and CSGN)
- **Linking land use/management pressures to sensitive primary land uses:** For example, the FWS case studies identified landscape pressures caused by different woodland types⁴³ and linked these to different Landscape Character Types (LCTs) as defined through the extant

⁴² Scottish Government (2014) Scotland Rural Development Programme (SRDP) Strategic Environmental Assessment (SEA) Environmental Report: <http://www.scotland.gov.uk/Topics/farmingrural/SRDP/SRDP20142012/SRDP20142020ExAnteEvaluationSEA> [accessed 16/01/14]

⁴³ This was undertaken for the four woodland types defined by the FCS Right Tree Right Place guidance (FCS, 2010): [http://www.forestry.gov.uk/pdf/fcfc129.pdf/\\$FILE/fcfc129.pdf](http://www.forestry.gov.uk/pdf/fcfc129.pdf/$FILE/fcfc129.pdf) [accessed 10/03/14]

Landscape Character Assessments (LCAs) for the area. This information was then used to support constraints analysis and assessment of different FWS scenarios – e.g. different spatial configurations of woodland types were overlayed with the LCA data to understand the potential implications of different spatial strategies in terms of landscape sensitivity/constraints

- **Use of related studies to inform constraints analysis and land use/management planning:** Both the Glasgow LDP and FWS case studies drew heavily on existing studies produced for other planning purposes to inform their land use/management decision-making. Landscape capacity studies for renewable energy development were used to support constraints analysis, particularly as the more strategic, extant LCAs were not granular enough to support more detailed/integrated planning

Use of spatial analysis to identify opportunities for multiple benefits

- 5.15 Several of the case studies used spatial analysis to integrate spatial datasets and identify opportunities whereby land use/management change could be designed to deliver multiple benefits. For example, the Glasgow LDP case study drew on existing datasets produced through a green network opportunities mapping exercise⁴⁴ undertaken for the Glasgow and Clyde Valley Strategic Development Plan (GCVSDP). In essence, this approach integrates various spatial datasets relating to integrated habitat networks (IHNs), access, greenspace quality and health to identify spatial priorities whereby green network development (i.e. sustainable land use/management intervention) has the potential to deliver multiple benefits.
- 5.16 The Stirling and Clackmannanshire FWS case study used additional, more detailed/granular spatial datasets in order to tease out specific, local level opportunities whereby integrated land use/management could potentially deliver multiple benefits at a more local scale. For example, the Macaulay Land Capability (LCA) for Agriculture data was used to identify more marginal agricultural land that may be appropriate for certain types of agro-forestry. Also, SEPA's flood extent data was used to identify opportunity areas for floodplain woodland planting as a sustainable approach to flood risk management (FRM).

Tools, skills and data that may be required

- 5.17 Access to GIS software, suitably skilled personnel and a substantial range of spatial data are required for the types of method/approach outlined above. Also, the more data available, the greater the range of constraints and opportunities that can be considered in the spatial analyses. Some data is

⁴⁴ Glasgow and Clyde Valley Green Network Partnership (2013) Green Network Opportunities Mapping pages: <http://www.gcvgreennetwork.gov.uk/opportunities-mapping/introduction> [accessed 10/03/14]

available free of charge from relevant agencies⁴⁵ whereas other data has to be purchased (e.g. the Macaulay LCA data).

Environmental assessment

- 5.18 The nature of several of the case studies is such that they have qualified for statutory environmental assessment (EA) processes e.g. the Glasgow LDP and both of the FWS case studies qualified for Strategic Environmental Assessment (SEA) as per the requirements of the Environmental Assessment (Scotland) Act 2005⁴⁶.
- 5.19 The objectives of SEA, and indeed EA more generally, are such that EA has potential to support translation of the LUS into decision-making 'on the ground'. In particular, the assessment process will identify impacts of the plan, programme or strategy (PPS) in SEA or the impacts of the project in Environmental Impact Assessment⁴⁷ (EIA). This information will often be useful for understanding how the PPS or project might influence sustainable land use outcomes, as per the LUS Principles. For an assessment of impacts on biodiversity, flora and fauna, as part of SEA, can help plan-makers understand ecosystem function issues in relation to LUS Principle D.

Table 5.2 Environmental assessment – specific methods/approaches identified through the research

Method/approach	Strongly relevant LUS Principles	Less strongly relevant LUS Principles	Case studies that have used the method/approach
Use of EIA and its constituent impact assessment processes to inform significant land use/management change decisions	C, D, E, F and H	A and I	<ul style="list-style-type: none"> Buccleuch Estates
Use of SEA as a legal driver for considering other relevant PPS (including LUS) in plan-development	Potentially all LUS Principles		<ul style="list-style-type: none"> Glasgow LDP FWS
Use of SEA to support consideration and translation of LUS Principles	Potentially all LUS Principles – B and G less so perhaps		<ul style="list-style-type: none"> Glasgow LDP FWS

- 5.20 Furthermore, public and stakeholder consultation is a legal requirement of all statutory EA processes. As such, EA can provide a useful legal driver for consultation and engagement including through the use of methods and approaches identified under the **engagement and awareness raising** category described at paragraphs 5.52 – 5.63.

⁴⁵ See, for example, SNH's spatial data download pages – NaturalSpaces: <http://www.snh.gov.uk/publications-data-and-research/snhi-information-service/naturalspaces/> [accessed 10/03/14]

⁴⁶ Environmental Assessment (Scotland) Act 2005: <http://www.legislation.gov.uk/asp/2005/15/contents> [accessed 10/03/14]

⁴⁷ See the Town and Country Planning (Environmental Impact Assessment) (Scotland) Regulations 2011: <http://www.legislation.gov.uk/ssi/2011/139/contents/made> [accessed 10/03/14]

- 5.21 The research has identified three specific methods/applications of **environmental assessment** in land use/management planning. These are detailed in Table 5.2 along with links to relevant LUS Principles and the case studies that have utilised the specific methods.

Use of EIA to inform significant land use/management change decisions

- 5.22 The Buccleuch Estates case study highlighted how EIA processes can usefully inform significant land use/management change decisions e.g. energy development, major deer fencing projects, afforestation/deforestation etc. EIAs can be statutory EIA (e.g. as a requirement of certain woodland planting or felling operations or the construction of forest roads⁴⁸) or non-statutory (e.g. for smaller scale projects where there is no legal requirement for EIA but where an EIA type impact assessment process can contribute to better decision-making) and can help to ensure that LUS Principles are considered in significant land use/management change decisions.
- 5.23 For example, an EIA may involve the use of Landscape and Visual Impact Assessment⁴⁹ (LVIA) to assess the effects of change on landscape (i.e. LUS Principle E type issues) from significant proposals such as windfarms or the use of Ecological Impact Assessment⁵⁰ (EclA) to assess impacts on ecosystem function and biodiversity (i.e. LUS Principle D type issues) from significant proposals such as afforestation. One issue however is that EIA practice generally considers impacts on discrete environmental topics as opposed to a more holistic consideration of impacts on whole ecosystems and ecosystem services (Baker et al, 2013).

Use of SEA as a legal driver for considering other relevant PPS in plan-development

- 5.24 Schedule 3 of the Environmental Assessment (Assessment) Scotland Act 2005⁵¹ requires SEA Environmental Reports to include “*an outline of the contents and main objectives of the plan or programme, and of its relationship (if any) with other qualifying plans and programmes*” and also “*the environmental protection objectives, established at international, Community or Member State level, which are relevant to the plan or programme and the way those objectives and any environmental considerations have been taken into account during its preparation*”.
- 5.25 In this regard, Scotland’s SEA legislation provides a legal driver for the consideration of other relevant PPS within plan-development, including the LUS and its ten Principles for sustainable land use. In effect, there is a strong case for all relevant plans (i.e. those having some influence over land

⁴⁸ FCS pages on the Environmental Impact Assessment (Forestry) (Scotland) Regulations 1999: <http://www.forestry.gov.uk/forestry/> [accessed 28/02/14]

⁴⁹ SNH LVIA pages: <http://www.snh.gov.uk/protecting-scotlands-nature/looking-after-landscapes/tools-and-techniques/landscape-visual/> [accessed 28/02/14]

⁵⁰ IEEM EclA Guidelines pages: <http://www.biodiversityplanningtoolkit.com/stylesheet.asp?file=08032010130355> [accessed 28/02/14]

⁵¹ Schedule 3 of the Environmental Assessment (Scotland) Act 2005 – Information for Environmental Reports: <http://www.legislation.gov.uk/asp/2005/15/schedule/3> [accessed 10/03/14]

use/management) qualifying for SEA to consider the LUS as part of plan-development.

- 5.26 This is in addition to the consideration of other relevant PPS that are linked to the LUS/sustainable land use type issues in some way e.g. River Basin Management Plans (RBMPs), Flood Risk Management Strategies, Local Biodiversity Action Plans (LBAPs), Climate Change Adaptation Strategies etc. These related PPS will likely capture LUS Principle specific issues e.g. LBAPs and LUS Principle D on **ecosystem services**, RBMPs and LUS Principle A on **multiple benefits**, C on **primary use**, D on **ecosystem services** and F on **climate change**.
- 5.27 As such, SEA can provide a useful legal driver encouraging plan-developers to consider the LUS itself and other related PPS that incorporate LUS/sustainable land use type issues within the development of their plans.

Use of SEA to support consideration and translation of LUS Principles

- 5.28 The Environmental Assessment (Scotland) Act 2005 defines the environment in terms of several discrete environmental issues or 'SEA topics'. As indicated on Figure 5.2 there is potentially significant overlap between these SEA topics and the LUS Principles.
- 5.29 In this regard, SEA can provide a useful means by which the LUS and its Principles can be considered within strategic planning (the intention being therefore that effective consideration of LUS Principles at the strategy/policy level should eventually influence practical land use/management decision-making 'on the ground'). There are several key stages within the SEA process where consideration of LUS Principle type issues could be integrated. For example:
- **Identification of key environmental issues/opportunities:** At scoping, SEA processes are focussed through the identification of key environmental issues/problems and opportunities. This scoping task informs all other tasks undertaken in the SEA. Many environmental issues considered in SEAs of certain qualifying plans may also be relevant to sustainable land use e.g. degraded peat bogs may be a key issue within an LBAP SEA and of direct relevance to LUS Principle F on **climate change** or opportunities to join up strategic habitat networks may be identified through an SEA of a Strategic Development Plan (SDP) – this is of direct relevance to LUS Principle D on **ecosystem services** and F on **climate change**
 - **Developing the SEA framework:** SEA methodologies in Scotland frequently use an SEA objectives-led approach. At scoping there may be a key opportunity to ensure that LUS Principle type issues are integrated with relevant SEA objectives and assessment criteria as appropriate – e.g. consideration of LUS Principle G on **vacant and derelict land** (VDL) within relevant SEA objectives under the material assets SEA topic

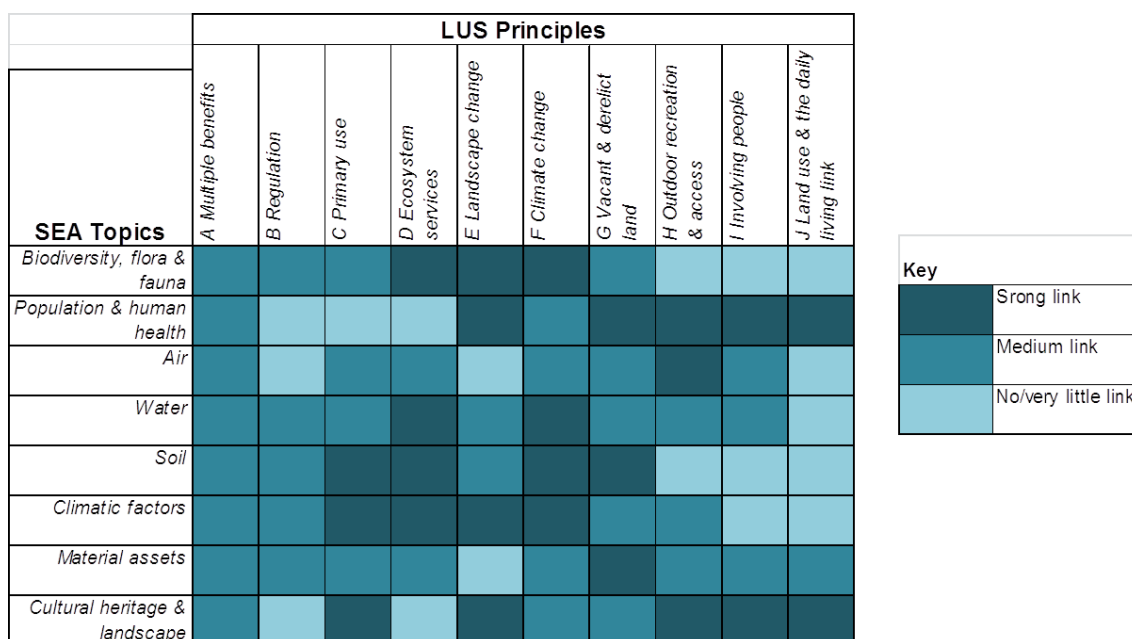


Figure 5.2 Potential links between SEA topics and LUS Principles

- The Figure shows hypothetical links between SEA topics and LUS Principles – see key for further information
- For example, the SEA topic 'soil' has strong links with several LUS Principles including Principle E on **climate change** (e.g. soils can be managed for carbon storage) and Principle G on **vacant and derelict land** (e.g. VDL sites frequently contain soils that have been contaminated by former uses)
- In this regard, scoping in soil issues to SEA could facilitate consideration and translation of LUS Principles – e.g. it may be the case that data on carbon rich soils is collated, potentially supporting the identification of opportunities for land management within the plan area to deliver climate change mitigation objectives

Tools, skills and data that may be required

5.30 SEA is a legal requirement for many plans and programmes in Scotland and there is already a good deal of capacity within the various SEA Responsible Authorities in Scotland including local authorities and key agencies such as SEPA and FCS (SEPA, 2011). In this regard, many of the tools, skills and data required to integrate consideration of LUS Principles with SEA are likely to be in place already. Existing SEA guidance in Scotland (Scottish Government, 2013a) provides the basis for this practice including guidance on the key SEA tasks discussed above.

5.31 Conversely, EIA *can* be more data and resource intensive, often involving the collation of fresh survey data across the range of issues considered (e.g. habitats, species, soil type and structure, hydrology etc). As such, EIAs are generally contracted out to external consultants with associated financial implications.

Ecosystem services

5.32 Several of the case studies have explicitly used the ecosystem services concept within their land use/management activities. This ranges from comprehensive ecosystem service assessments to using ecosystem services more generally as a framing to communicate the benefits of the natural environment to stakeholders.


- 5.33 The research has identified two specific methods/applications of **ecosystem services** in land use/management planning. These are detailed in Table 5.3 along with links to relevant LUS Principles and the case studies that have utilised the specific methods.

Table 5.3 Ecosystem services – specific methods/approaches identified through the research

Method/approach	Strongly relevant LUS Principles	Less strongly relevant LUS Principles	Case studies that have used the method/approach
Use of ecosystem service assessment to understand the 'value' of existing land use in terms of single and multiple benefits	A, C, D, E, F and H	I and J	<ul style="list-style-type: none"> • Glasgow LDP • FWS • Biosphere
Use of integrated habitat networks (IHN) data to model ecosystem processes and intermediate services	D, E and F	A and C	<ul style="list-style-type: none"> • CALL • CSGN • FWS • Biosphere • Glasgow LDP

Use of ecosystem service assessment to understand land use value

- 5.34 Assessments of ecosystem services can range from simple qualitative descriptions (e.g. what makes a given area's natural environment important) to comprehensive assessments based on primary data from the study region (e.g. peat depth survey to model the equable climate/carbon storage services provided by an area of peat bog). This range of approaches is characterised in the literature also – for example Baker et al (2013) discuss the use of comprehensive ecosystem service assessment at one end and the use of a more general ecosystem services 'philosophy' at the other. Different approaches to ecosystem service assessment are illustrated on Figures 5.3 and 5.4, noting that the qualitative example at Figure 5.3 has been sourced from the literature and not the case studies.



Things	Benefits	Uses
Area of Beech (<i>Fagus sylvatica</i>) dominated wood parkland	Area that provides benefits to society, namely: <ul style="list-style-type: none"> • Food production; • Cultural and spiritual; • Carbon sequestration and storage; • Water and flood regulation; • Soil formation; • Noise reduction; • Ornamental resources; • Biological control; • Pollination. 	Area that can be used in a variety of ways, namely: <ul style="list-style-type: none"> • Walk the dog; • Get ivy for Christmas; • Build a jump for bike; • Go for a stroll; • Gets flooded in the winter; • Get some peace and quiet; • Harvest nuts and mushrooms; • To meet as part of a community group.

Figure 5.3 Example of a qualitative ecosystem service assessment
(Source: Sheate et al, 2012)

- 5.35 Several of the case studies have used different ecosystem service assessment approaches within their land use/management activities. The Glasgow LDP for example uses ecosystem services as a means of ‘selling’ the benefits of the natural environment to stakeholders who have perhaps traditionally regarded it more as a constraint (e.g. developers, engineers).

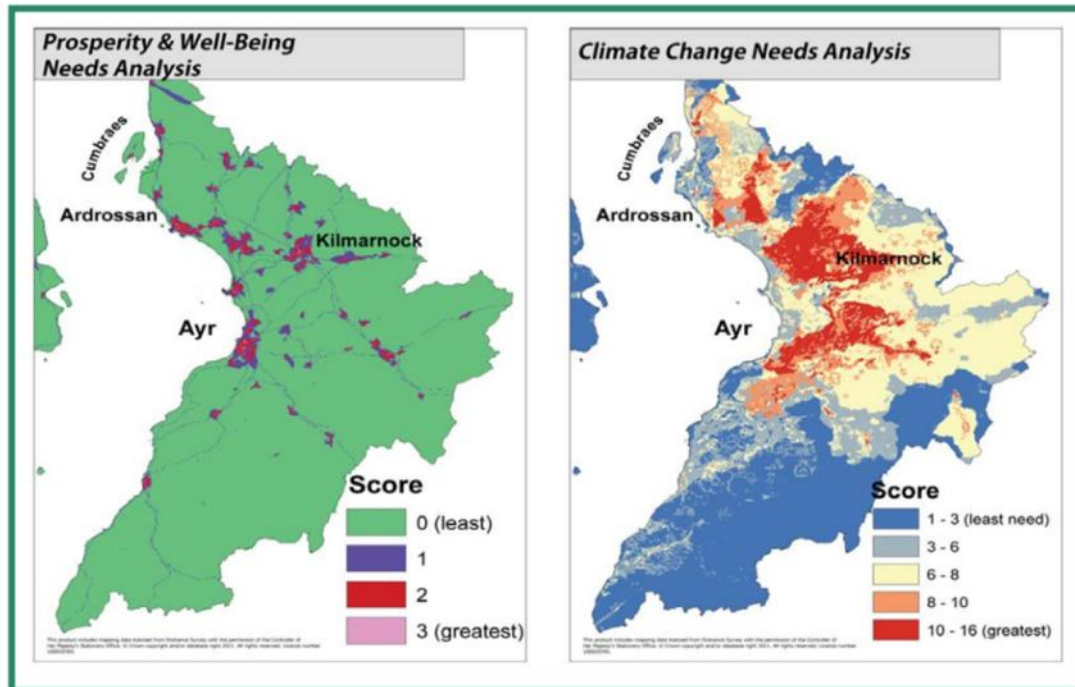


Figure 5.4 Example of a more comprehensive ecosystem service assessment – spatial representation of ecosystem services using a proxy based approach
(Source: CSGN Partnership Board, 2011b)

- The maps above are taken from a green network opportunities mapping study undertaken for the three Ayrshire local authorities with support from the CSGN Development Fund
 - The study used a proxy approach to mapping ecosystem services to identify where green network development and enhancement may be required in order to enhance certain ecosystem services
 - The maps above depict locations where green network development/enhancement may be required to enhance ecosystem services relating to prosperity and wellbeing (left hand map) and climate change adaptation (right hand map)
 - The map has been constructed using landcover data as a proxy for ecosystem services supported by related ‘causal variable’ datasets (Eigenbrod et al, 2010). Causal variables define the contextual factors that influence the value and importance of ecosystem services (e.g. adjacency to flood zone and water storage capacity of land use in the example above)
- 5.36 On the other hand, the Biosphere has used a more comprehensive ecosystem service assessment to map and value (using a mixed metric approach) the ecosystem services provided by existing land use within the Biosphere. In this regard, the intention is to better understand the ‘value’ and distribution of ecosystem services within the Biosphere in order to facilitate a more transparent and considered approach to land use/management decision-making. For example, understanding the full range of ecosystem services provided by an area of shallow-medium peat soils relative to the full range of services provided by the same area of land if all or part of it was cultivated for commercial forestry or developed for renewable energy provision.

- 5.37 In terms of methods, the more comprehensive ecosystem service assessments often involve spatial representation of ecosystem services⁵² using primary data (e.g. peat depth surveys to measure carbon storage/climate regulation ecosystem services) or proxy approaches based on landcover data alone (e.g. using the landcover class⁵³ 'bog' to define a very simple proxy for carbon storage/climate regulation ecosystem services). For example, proxy approaches were used by the Perth and Kinross FWS and Biosphere case studies in the assessment of carbon storage services.
- 5.38 Assessments can also consider monetary or non-monetary/mixed metric valuation of ecosystem services. As per the Biosphere example above, the mapping and valuation of ecosystem services can aid land use/management decision-making by comparing the change in value (either monetary or mixed metric) of changing land use/management for different ecosystem services.

Use of IHN data to model ecosystem processes

- 5.39 Integrated habitat network (IHN) modelling⁵⁴ has emerged in recent years as a useful technique for prioritising and planning habitat restoration and expansion projects. In essence, the IHN modelling approach considers the configuration of existing habitat patches within the landscape and the potential for key species to move between habitat patches – i.e. the connectivity of habitat(s) across a landscape.
- 5.40 Using GIS, IHN modelling considers landscape 'permeability' as a function of land use to create an 'intelligent' buffer around individual habitat patches. For example, where a patch of woodland habitat is surrounded on one side by mixed use development and pasture on the other, the landscape will likely be more 'permeable' for wildlife on the pasture side than on the development side. This is then represented in the size and shape of the 'intelligent' buffer within which wildlife may be able to disperse.
- 5.41 Where the 'intelligent' buffers of two or more habitat patches overlap, a potential habitat network is formed. Within these networks, there is scope for wildlife to disperse between distinct yet separate habitat patches. This interaction supports various landscape scale ecosystem processes including interbreeding, natural habitat regeneration etc.
- 5.42 The outputs of IHN modelling can be used spatially to explore and prioritise potential strategies for habitat expansion and restoration projects. For example, a strategic habitat creation project could act to join up otherwise disparate habitat patches, reducing habitat fragmentation and increasing habitat connectivity.

⁵² See for example Eigenbrod et al (2010) *The impact of proxy based methods on mapping the distribution of ecosystem services*: <http://onlinelibrary.wiley.com/doi/10.1111/j.1365-2664.2010.01777.x/pdf> [accessed 28/02/14]

⁵³ CEH (2011) Landcover map 2007 dataset documentation: <http://www.ceh.ac.uk/documents/lcm2007datasetdocumentation.pdf> [accessed 28/02/14]

⁵⁴ Forest Research Integrated Habitat Network Modelling pages: <http://www.forestry.gov.uk/fr/INFD-7S9ARR> [accessed 10/03/14]

- 5.43 IHN modelling has been used to varying degrees by a number of the case studies. CALL have used the approach to identify potential areas for the establishment of native woodland habitat. The CSGN commissioned an IHN model for the whole CSGN region and, based on this data, 'habitat network enhancement zones' and other habitat network related issues are incorporated as priorities within the CSGN Development Fund application process.
- 5.44 The Glasgow LDP MIR discusses a potential approach to biodiversity conservation based on *"an integrated policy approach which protects, and promotes the expansion and enhancement of, habitat networks, helping safeguard species and habitats and the ecosystem services they provide"*.

Tools, skills and data that may be required

- 5.45 This is likely to be dependent on the specific ecosystem service assessment approach used. For example, mapping/valuation approaches using landcover proxies only may be less onerous but will still require access to landcover data and GIS software and expertise. Mapping/valuation approaches drawing on primary data are likely to be much more resource intensive. There is a close relationship between ecosystem service assessments involving spatial representation of ecosystem services and the spatial analysis approaches described at the start of this Chapter. In essence, both the constraints and opportunities mapping approaches consider ecosystem services in an implicit manner (e.g. mapping wild land and peat/carbon rich soils).

Partnerships and governance

- 5.46 Most of the case studies in the LUS Delivery Evaluation Project have involved partnership working, to a greater or lesser degree. As such, a number of key methods/approaches have been identified through the research in relation to partnerships and governance. In particular, the research has identified two specific methods/approaches in relation to **partnerships and governance** that have key relevance for land use/management planning. These are detailed in Table 5.4 along with links to relevant LUS Principles and the case studies that have utilised the specific methods.

Table 5.4 Partnerships and governance – specific methods/approaches identified through the research

Method/approach	Strongly relevant LUS Principles	Less strongly relevant LUS Principles	Case studies that have used the method/approach
Use of partnership working and formalised partnership agreements to deliver greater benefit than would otherwise be possible	Potentially all LUS Principles		<ul style="list-style-type: none"> • CSGN • CALL • DCP • Glasgow LDP • FWS • LLTNP Partnership Plan • North Harris Trust • Biosphere
Cross-boundary partnership working	A, D, E and F	C and H	<ul style="list-style-type: none"> • CALL • FWS • Biosphere

Use of partnership working and formalised partnership agreements

- 5.47 As discussed at Chapter 4, the literature and the research team's wider experience of evaluating partnership based policy and process suggests that effective partnership working can be used to deliver benefits that are greater than the sum of the partnership's individual parts. Throughout the Research Question No.3 analysis, several key methods/approaches relating to partnerships and governance were forthcoming from the data. Key examples include:
- **Identifying scope for additionality:** The CSGN, DCP and LLTNP Partnership Plan case studies sought to identify shared priorities and objectives across the partner organisations. In this manner it was possible to align policies and projects in order to identify where resource could be saved and additionality achieved i.e. 'freeing-up' resource to progress land use/management projects that may not otherwise have been possible
 - **Shared vision:** Several case studies (including the CSGN, CALL, LLTNP Partnership Plan and Biosphere) developed a shared strategic vision incorporating shared objectives, aims and principles. In essence, this is an expression of agreed shared priorities and objectives for land use/management. In the case of the LLTNP Partnership Plan, the agreed vision and priorities document was developed using a workshop based approach, allowing all partners to input equally to the process
 - **Partnership agreements and good governance:** The CSGN, CALL, LLTNP Partnership Plan and Biosphere case studies developed partnership agreement type documents (e.g. terms of reference, charters, concordats etc) to exert a degree of formality over partnership/joint working arrangements e.g. what the partnership's objectives are, arrangements for decision-making and funding, who is responsible for what etc. Partnership agreements are different from the vision documents which are more public facing – the partnership arrangements provide the basis for governance and clear delineation of roles and responsibilities
 - **Working with a broad range of partners:** The Biosphere case study's catchment scale approach to integrated land/water management is designed to incorporate the views of both 'top-down' (e.g. statutory agencies, local authorities etc) and 'bottom-up' (e.g. farmers/other land managers, community groups etc) stakeholders. The rationale behind this approach is to ensure that the full range of land management interests, approaches and ideas can be considered in decision-making, contributing to more integrated land use/management planning and better outcomes overall

Cross-boundary partnership working

- 5.48 The CALL, FWS and Biosphere case studies all promote and/or adopt a degree of partnership working across administrative and/or land ownership boundaries. The key rationale for this model of partnership working in these three case studies is effective planning for landscape scale ecosystem processes/intermediate services, especially ecological networks and relevant hydrological cycle processes. In essence, this recognises that landscape and

ecosystem boundaries very rarely map directly to administrative or ownership boundaries.

- 5.49 In the case of CALL, the project area (which is comprised of several estates) is defined by the area's distinctive landscape influenced by the underlying geology of Torridonian sandstone and Lewisian gneiss. In the case of the Biosphere, the catchment scale approach to integrated land/water management is designed to work at the catchment scale – i.e. a 'discrete ecosystem'. In the case of the FWS case studies, the RTRP guidance (FCS, 2010) suggests that FWS can be developed collaboratively by multiple local authorities to facilitate better planning for key issues, such as ecological networks.
- 5.50 The proposed SRDP 2014-2020 (Scottish Government, 2013b) includes a specific scheme on support for cooperative action that may provide funding for cross-boundary partnership working. In particular, the proposed scheme has an emphasis on collaborative working to enable ecosystem or landscape scale projects that have the potential to deliver across a range of outcomes e.g. *"a project that covers all of a priority catchment area in order to secure improvements in water quality, flood-risk and biodiversity, or reduces habitat fragmentation"* (Scottish Government, 2013b p.64). Furthermore, public service reform in Scotland⁵⁵ is also a key driver of improved partnership working, including in relation to land use/management activities.

Tools, skills and data that may be required

- 5.51 The most important requirement for effective partnership working is arguably the partners themselves. Raising interest in the partnership and the role of partnership working in the delivery of integrated land use/management more generally may require significant preparatory engagement and awareness-raising. This may particularly be the case where there are a diverse range of partners involved including community groups (as is the case in the Biosphere case study for example) and/or where there are likely to be financial implications for partners.

Engagement and awareness-raising

- 5.52 Many of the case studies considered in this research have a statutory requirement to consult stakeholders and the public (e.g. as a component of SEA or statutory plan-development processes). Equally, many of the case studies have undertaken consultation activities as a matter of good-practice. As such, a number of key methods/approaches have been identified through the research in relation to **engagement and awareness-raising** in land use/management planning decision-making. These are detailed in Table 5.5 along with links to relevant LUS Principles and the case studies that have utilised the specific methods. The methods in Table 5.5 are arguably applicable for both statutory and non-statutory consultation processes.

⁵⁵ Scottish Government Public Service Reform pages:
<http://www.scotland.gov.uk/Topics/Government/PublicServiceReform> [accessed 01/05/14]

Table 5.5 Engagement and awareness-raising – specific methods/approaches identified through the research

Method/approach	Strongly relevant LUS Principles	Less strongly relevant LUS Principles	Case studies that have used the method/approach
Use of maps, visuals and other more novel techniques to engage the public and affected communities in land use/management decision-making	Potentially all LUS Principles		<ul style="list-style-type: none"> • Buccleuch Estates • CALL • Glasgow LDP • LLTNP Partnership Plan • Biosphere
Use of case studies, good-practice, networking events and publicity to raise awareness of the benefits of sustainable land management	Potentially all LUS Principles		<ul style="list-style-type: none"> • CSGN • Glasgow LDP • Monitor Farms • North Harris Trust
Use of carefully designed volunteering and educational programmes to engage the public in land use/management issues	I and J	Potentially all other LUS Principles	<ul style="list-style-type: none"> • CALL • DCP
Use of a 'neutral space' where land managers and regulators can come together to discuss issues	B	A, C, D, E and F	<ul style="list-style-type: none"> • Monitor Farms

Use of novel techniques to engage the public and affected communities

- 5.53 Several of the case studies used more novel approaches to encourage engagement in land use/management decision-making including intelligent use of maps at a variety of scales to communicate policy (Glasgow LDP) or a desired direction of change (Buccleuch Estates), the novel use of media to engage people in decision-making (Glasgow LDP, LLTNP Partnership Plan and Biosphere) and the use of specific consultation sessions with harder to reach communities (Glasgow LDP and North Harris Trust).
- 5.54 Once adopted, the Glasgow LDP case study anticipates an extensive use of maps, at a range of different scales, to communicate planning policy effectively to stakeholders, the public and affected communities. Crucially, an online mapping system will allow people to look at the specific policies affecting their street or neighbourhood – i.e. communicating planning policy at a human scale. Similarly, Buccleuch Estates have reported that mapped outputs from the WEDP approach provide a useful means of communicating land use/management decisions to the public/affected communities recognising, however, that the public are not currently involved in land use/management planning at the whole estate level.
- 5.55 The Glasgow LDP, LLTNP Partnership Plan and Biosphere case studies all used a postcard based consultation method⁵⁶ to slightly different ends. In Glasgow, postcards were used to engage people on the range of policy issues outlined in the LDP Main Issues Report (MIR). Example postcards are shown at Figure 5.5. This also involved distributing the postcards in slightly unexpected places (including the city's universities) to try and elicit as broad a response as possible.

⁵⁶ Consultation messages are presented on postcards and consultees are invited to return the postcards with details of their response, comments, ideas etc in relation to the proposals



Figure 5.5 Glasgow LDP MIR postcard consultation – example postcards
(Source: Glasgow City Council, 2011c)

Use of case studies etc to raise awareness of the benefits of sustainable land management

- 5.56 The CSGN, Glasgow LDP, Monitor Farms and North Harris Trust case studies all used a variety of case studies, good-practice publications, networking events and publicity to raise awareness of the benefits of sustainable land management. In essence, all of the approaches/methods used were designed to demonstrate the ‘win-win’ outcomes of different sustainable land management practices.
- 5.57 This was a particular issue for the CSGN and Glasgow LDP case studies who are working closely with the private sector to demonstrate the benefits of integrated green infrastructure (IGI) thinking and design in development (e.g. housing developers). The CSGN use their news bulletins⁵⁷ to communicate good-practice case studies to a wide audience and frequently attend meetings to raise awareness of the benefits of the green network across a range of interests. The CSGN often use ‘win-win’ business examples of how the green network and IGI approaches can help to reduce costs and/or add value, deliver multiple benefits and expedite planning.
- 5.58 The Monitor Farms case study is predicated on the use of networks of interest (i.e. livestock farmers and others with an interest in the impacts or benefits of livestock farming) to discuss new approaches and develop practical recommendations that can be trialled on a given farm.

Use of volunteering and educational programmes to engage people in land use/management issues

- 5.59 Several of the more community focussed case studies used carefully designed volunteering and engagement programmes as a means of engaging people in land use/management issues. This ranged from practical volunteering opportunities whereby people could get involved in practical land and/or conservation management activities (e.g. planting days, habitat management – CSGN) to higher level educational and work experience opportunities (e.g. internships, joint MSc research projects etc – CALL).

⁵⁷ CSGN news pages: <http://www.centuralscotlandgreennetwork.org/news-and-events/news> [accessed 10/03/14]

- 5.60 The FCS RTRP guidance promotes the use of community owned or managed natural assets (i.e. woodlands) as a means of engaging people in practical land use/management issues, potentially through volunteering activities as per the above and/or through specific training courses. In a similar vein, the WES case study highlights how private estates can provide a resource for educational visits, outreach activities etc as a means of raising awareness of practical land management and the role of the land fulfilling a variety of different functions.

Use of a 'neutral space' where land managers and regulators can come together to discuss issues

- 5.61 From discussions with contacts from the Monitor Farms case study it emerged that a potential side benefit of the Monitor Farms approach is the way in which meetings can provide a 'neutral space' whereby farmers/land managers and regulators can come together to discuss shared issues relating to land management and regulation. In this manner, it was felt that meetings can sometimes help to agree a way forward on a specific issue e.g. through the identification of common ground.
- 5.62 This sort of 'neutral space' approach could potentially be relevant to other land management sectors (e.g. arable farming, forestry, renewable energy development) though a knowledge broker/facilitator role may be desirable, as is the case with the Monitor Farms approach. In addition to identifying common ground between land managers and regulators, it was felt that the Monitor Farms approach can also be useful for sharing good-practice on regulatory compliance.

Tools, skills and data that may be required

- 5.63 As per the above, effective engagement and awareness-raising activities can often involve a degree of innovation in order to identify a new angle or approach that has appeal for a specific stakeholder group (e.g. hard to reach communities). In this regard, there is often a case for the use of creative design input to the development of materials for engagement and awareness-raising activities. As such, the development of effective materials can often require input from design professionals which may have a cost attached if these skills are not available in-house. In this regard, there may also be other skills that need to be bought in where the skills are not available in-house e.g. facilitation and data analysis.

Planning and design

- 5.64 Two of the case studies considered in this research (CSGN and Glasgow LDP) have a specific urban focus. Between them, the CSGN and Glasgow LDP case studies encompass Scotland's two largest urban conurbations, Glasgow and Edinburgh (see Figure 4.1 in this regard). As such, it is unsurprising that the Research Question No.3 evaluation has highlighted several methods/approaches that relate specifically to urban planning and design in terms of process, land use issues and the placemaking agenda. These have been categorised as **planning and design** methods/approaches

and are detailed in Table 5.6 along with links to relevant LUS Principles and the case studies that have utilised the specific methods.

Table 5.6 Planning and design – specific methods/approaches identified through the research

Method/approach	Strongly relevant LUS Principles	Less strongly relevant LUS Principles	Case studies that have used the method/approach
Use of Supplementary Guidance to LDPs and SDPs to articulate key land use/management policy issues	Potentially all LUS Principles		<ul style="list-style-type: none"> • CSGN • Glasgow LDP
Temporary use arrangements for brownfield sites	A, G and J	D, E, F and H	<ul style="list-style-type: none"> • CSGN • Glasgow LDP
The placemaking agenda and its constituent approaches	A, C, D, E, F, H and I	Potentially all other LUS Principles	<ul style="list-style-type: none"> • CSGN • Glasgow LDP • Biosphere

Use of Supplementary Guidance to articulate key land use/management policy issues

- 5.65 Various data relating to the two main urban case studies from the research (CSGN and Glasgow LDP) highlighted how Supplementary Guidance to LDPs and SDPs can be used to articulate key land use/management policy issues. This was felt to be a particularly important method/approach in urban areas where Town and Country Planning is the primary mechanisms for delivering land use (in contrast to more rural areas where land use is driven more by private objectives, the grants/incentive regime etc).
- 5.66 In this regard, Supplementary Guidance was construed as a useful and structured means of articulating key land use/management policy issues that are of direct relevance to the LUS – e.g. specific guidance on the role of green infrastructure contributing to ecological networks (i.e. LUS Principle A on **multiple benefits**, D on **ecosystem services** and F on **climate change**) and water management (i.e. i.e. LUS Principle A on **multiple benefits** and F on **climate change**).
- 5.67 Crucially, the Glasgow LDP case study, once adopted, will include provision for Supplementary Guidance on more detailed, location specific planning matters. In this regard, these more detailed planning frameworks (e.g. Local Development Frameworks and masterplans) will provide specific locational guidance for translating the LUS Principles at more local levels including, for example, location, design and capacity guidelines/policy for key infrastructures, including green infrastructure (e.g. strategic water management assets, strategic habitat networks and access links etc).

Temporary use arrangements for brownfield sites

- 5.68 Within the Glasgow LDP case study, Glasgow City Council (GCC) have been promoting the temporary use of brownfield sites for a number of years, in response to the economic downturn and the prevalence of ‘stalled’ development sites across the city⁵⁸. The CSGN are promoting similar

⁵⁸ GCC Stalled Spaces homepage: <http://www.glasgow.gov.uk/stalledspaces> [accessed 11/03/14]

approaches and are seeking to embed temporary greening as a useful approach for dealing with vacant and derelict land (VDL) issues in relevant Scottish Government policy and grant support mechanisms.

- 5.69 GCC have developed a specific approach whereby temporary use agreements for stalled sites can be brokered between land owners/developers and community groups wishing to use the site, on a temporary basis, for specific functions. Key functions in this regard include small scale food growing, environmental education, outdoor play and recreation. There is scope for this sort of approach to be rolled-out to other urban areas in Scotland though specific provision needs to be in place in terms of appropriate legal/lease agreements to satisfy land owner/developer concerns (e.g. the risk that sites may cease to be temporary in the eyes of the community group).

The placemaking agenda

- 5.70 The placemaking agenda in Scotland was brought to the fore in 2010 with the publication of *Delivering Better Places in Scotland – A guide to learning from broader experience* (Scottish Government, 2010). The notion of ‘place’ is generally applied to more local/human scales – e.g. the Scottish Government Architecture and Design pages⁵⁹ talk about creating “*successful, thriving and sustainable places and communities*” – as opposed to the notion of ‘landscape’ which is generally applied to broader scales. In terms of this research, the notions of ‘place’ and ‘landscape’ have been considered together within LUS Principle E on landscape. In terms of placemaking in particular however, the data highlights a particular focus on the more local/human scale and often in an urban/peri-urban context.
- 5.71 As such, it is unsurprising that placemaking has emerged as a useful method/approach within the CSGN and Glasgow LDP case studies though it has also been considered within the Biosphere. In terms of the CSGN for example, the role of the placemaking agenda and its constituent tools and policies⁶⁰ influencing the consideration of many LUS Principle type issues has been highlighted as a useful approach, particularly in an urban/peri-urban context and particularly at the neighbourhood scale.
- 5.72 The Glasgow LDP, once adopted, will likely include an overarching/headline policy on placemaking. The rationale for this approach is that placemaking policy will then influence all planning decisions, especially in relation to forcing developers and Development Management (DM) planners to think ‘beyond the redline’ and consider how a given development relates to and is integrated with its surrounding landscape and context.

⁵⁹ Scottish Government Architecture and Place pages: <http://www.scotland.gov.uk/Topics/Built-Environment/AandP> [accessed 11/03/14]

⁶⁰ See for example *Delivering Better Places in Scotland* (Scottish Government, 2010): <http://www.scotland.gov.uk/Resource/Doc/336587/0110158.pdf> [accessed 17/02/14]; and *Creating Places a Policy Statement on Architecture and Place for Scotland* (Scottish Government, 2013): <http://www.scotland.gov.uk/Resource/0042/00425496.pdf> [accessed 17/02/14]

- 5.73 The Biosphere case study used elements of a placemaking approach as part of a consultation exercise that sought public and community views on issues around place and landscape – i.e. at a range of scales, what makes the Biosphere special to you? This approach has close relations with a number of other methods/approaches identified through this research. For example, this sort of broad, qualitative approach can be used to inform qualitative assessments of ecosystem services i.e. an ecosystem services ‘philosophy’ approach as per Baker et al (2013).

Tools, skills and data that may be required

- 5.74 The methods/approaches described in this section are all broadly related to the statutory functions of planning authorities. Given this, there are no new concepts or methods as such, rather there is more of an emphasis on service delivery in line with up to date planning and design policy/guidance.

Grants and incentives

- 5.75 Grant and incentive mechanisms can have a significant impact on land use/management in a variety of different contexts. The Research Question No.3 evaluation has highlighted several methods/approaches that relate specifically to methods/approaches that can facilitate the more targeted use of **grant and incentives**. The specific methods/approaches identified are detailed in Table 5.7 along with links to relevant LUS Principles and the case studies that have utilised the specific methods.

Table 5.7 Grants and incentives – specific methods/approaches identified through the research

Method/approach	Strongly relevant LUS Principles	Less strongly relevant LUS Principles	Case studies that have used the method/approach
Spatial and thematic targeting of grants and incentives to deliver desired outcomes from land use/management	Potentially all LUS Principles		<ul style="list-style-type: none"> • CSGN • FWS • WES
Using the LUS Principles as a guide or framework for relevant grant applications	Potentially all LUS Principles		<ul style="list-style-type: none"> • North Harris Trust
Use of accreditation schemes to promote and encourage good-practice in sustainable land management	Potentially all LUS Principles		<ul style="list-style-type: none"> • WES

Spatial and thematic targeting of grants and incentives

- 5.76 Within the scope of their specific remits, several of the case studies have used spatial and thematic targeting of relevant grant and incentive mechanisms to prioritise and focus grant/incentive supported land use/management activities for the delivery of specific outcomes.
- 5.77 Thematic targeting is construed as a focus on specific objectives or priorities. For example, the CSGN case study uses thematically focussed grant support (i.e. the Development Fund) to drive consideration of specific issues in land

use/management policy and projects. In essence, the Development Fund application process highlights specific priorities that prospective projects should aim to support (e.g. addressing VDL, joining up links in habitat and access networks, projects in more deprived areas etc). The more priorities supported by a given project, the greater the chance that the project will receive funding.

- 5.78 In a similar vein, the Perth and Kinross FWS is considering how targeted support from public bodies (e.g. the council and FCS) and other forestry stakeholders can be used to encourage and promote small scale agro-forestry initiatives for the provision of greater multiple benefits from land holdings (noting that this approach also ties in with some of the methods/approaches identified in relation to spatial analysis – e.g. using more granular data to identify land use/management constraints and opportunities in highly heterogeneous landscapes).
- 5.79 Spatial targeting is used to focus certain types of grant support/incentives on specific geographical areas. This, in essence, is the overall premise of the FWS approach – i.e. using the FWS spatial strategy to target locational premiums for forestry grant support (what types of woodland and where). This sort of spatial targeting approach can also apply to compensatory planting⁶¹. For example compensatory planting that may be required following energy development related clear fell – i.e. using FWS to ensure that the right sort of compensatory planting takes place in the right location. Spatial targeting of grant support/incentives through the use of locational premiums was also highlighted by the WES case study as a potentially useful approach for driving land use/management change in a desired direction.

Using the LUS Principles as a guide/framework for relevant grant applications

- 5.80 Data pertaining to the NHT case study suggested that the suite of ten LUS Principles could be used as an overall framework or guide to support relevant grant applications. In this manner, the LUS Principles can provide a consistency check with which to check the objectives and scope of prospective projects or fundable activities – i.e. to what degree is the proposal consistent with Scottish Government policy on sustainable land use?
- 5.81 Potential grants that this sort of approach could be applied to include the various SRDP schemes, Heritage Lottery Fund (HLF) and the CSGN Development Fund.

Use of accreditation schemes to promote and encourage good-practice in sustainable land use/management

- 5.82 The WES case study is predicated on the use of accreditation schemes to promote and encourage good-practice land management amongst the private sector. In this regard, accreditation schemes such as WES can be used as a driver to encourage private businesses (e.g. estates, farms etc) to consider

⁶¹ Compensatory planting may be required as per the FCS' policy on the Control of Woodland Removal: <http://www.forestry.gov.uk/woodlandremoval> [accessed 11/03/14]

the LUS Principles or LUS Principle type issues in land management. Furthermore, there is a feeling that accreditation can also drive continuous improvement in this regard – i.e. by setting a benchmark that can be improved upon (and potentially encouraging friendly competition).

- 5.83 A stronger approach suggests that accreditation schemes (such as WES) can potentially be used as a means of industry self-regulation, thereby avoiding the need for additional top-down regulation of estate management from Government. Rather, there would be greater reliance on the body of existing good-practice, continuous professional development etc as opposed to additional regulation.

Tools, skills and data that may be required

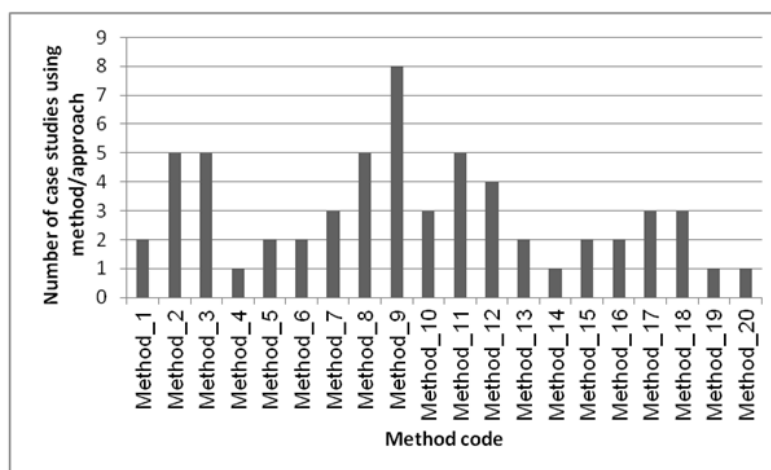
- 5.84 As with the planning and design methods/approaches discussed above, many of the tools, skills and data required for the grant and incentive methods and approaches will be in place already and/or will require consideration of other relevant data that already exists. A key example in this regard includes the various spatial datasets that may be required to support the spatial targeting of grants and incentives (i.e. there are close links between grants and incentives and spatial analysis methods/approaches).
- 5.85 Consideration of LUS Principles within grant applications may simply require a greater awareness and understanding of the LUS and its ten Principles whereas effective use of accreditation schemes may require better awareness of and training for sustainable land use (i.e. demonstrating links with some of the engagement and awareness-raising methods/approaches discussed above).

Summary of key themes/issues identified

- 5.86 The sub-sections above describe the twenty key methods and approaches, identified through this research, that may have some utility helping to translate the ten LUS Principles into decision-making ‘on the ground’. In essence, all of the methods/approaches are likely to have some utility as they have all been used by at least one of the case studies. In this regard, a given method or approach may potentially be attractive for use if it meets one or more of the following criteria:
- **The method/approach has been proven to work:** it could be endorsed in statutory guidance or recommended by a trusted colleague or associate who has used the method themselves (e.g. use of spatial analysis to define constraints to land use/management, SEA and EIA)
 - **The method/approach has been used previously:** it has been used already by the organisation/individual and is a trusted approach
 - **The method/approach is easy to use:** tools that are easy to use will generally be used before tools that are more complex or harder to interpret/learn. The notion of ‘easy to use’ is a value judgement and will vary depending on a person’s specific skills, knowledge and experience
 - **The data required for the method/approach is readily available:** similarly to ‘ease of use’, it may be the case that methods/approaches are

selected for use based on data availability. For example, SEA practice in Scotland is becoming increasingly embedded (SEPA, 2011) and data requirements for SEA (including SEA guidance and environmental baseline data) are improving

- 5.87 As touched on briefly at the start of this Chapter (see paragraph 5.5), another way of analysing the methods/approach data is to look at the frequency with which case studies are using the twenty different techniques. This analysis is undertaken by considering the number of case studies that have used a given method/approach, as indicated in the summary tables at the start of each sub-section – see Table 5.7 for example.
- 5.88 In this regard, the most widely used method could potentially be construed as the most useful method, as this is the method used most frequently by the eleven case studies considered in the research (recognising that this is based on a case study sample of mechanisms from the wider land use delivery landscape discussed at Chapter 1 – see paragraph 1.19). Figure 5.6 illustrates this point.
- 5.89 It is important to recognise however that the most widely used method (as per Figure 5.6) could also be the method that is more broadly applicable, has some utility in many different circumstances or is a more familiar or standard method/approach (e.g. Method_9 on **partnership working** and Method_11 on **novel approaches to consultation/engagement**). Equally, methods that are used less widely could be new, highly innovative methods that are simply less well known or have not been ‘tried and tested’ yet (e.g. Method_19 **using the LUS Principles as a guide/framework for preparing relevant grant applications**).
- 5.90 In terms of the data shown on Figure 5.6 therefore, the method/approach most widely used by the eleven case studies is Method_9 on **partnership working and formalised partnership agreements** (used by eight case studies). Other methods/approaches with high levels of use are Method_2 on **spatial analysis for defining constraints**, Method_3 on **spatial analysis for the identification of opportunities**, Method_8 on the **use of Integrated Habitat Network (IHN) data to model ecosystem processes** and Method_11 on the **use of novel techniques to engage the public and affected communities**. Each of these methods was used by five of the case studies.
- 5.91 In terms of methods/approaches that were used less frequently, four were used by one case study only. These were Method_4 on the **use of EIA to inform significant land use/management change decisions**, Method_14 on the **use of a ‘neutral space’ where land managers and regulators can discuss issues**, Method_19 on **using the LUS Principles as a framework for grant applications** and Method_20 on the **use of accreditation schemes to promote good-practice**.



Method code	Method	Method code	Method
Method_1	Mapping core areas of primary land use to delineate a land use/management framework	Method_11	Use of maps, visuals and other novel techniques to engage the public and affected communities in land use/management decision-making
Method_2	Use of spatial analysis and spatial datasets to define constraints for land use/management	Method_12	Use of case studies, good-practice, networking events and publicity to raise awareness of the benefits of sustainable land management
Method_3	Use of spatial analysis and spatial datasets to identify opportunities for land use/management to deliver multiple benefits	Method_13	Use of carefully designed volunteering and educational programmes to engage the public in land use/management issues
Method_4	Use of EA and its constituent impact assessment processes to inform significant land use/management change decisions	Method_14	Use of a 'neutral space' where land managers and regulators can come together to discuss issues
Method_5	Use of SEA as a legal driver for considering other relevant PPS (including LUS) in plan-development	Method_15	Use of Supplementary Guidance to LDPs and SDPs to articulate key land use/management policy issues
Method_6	Use of SEA to support consideration and translation of LUS Principles	Method_16	Temporary use arrangements for brownfield sites
Method_7	Use of ecosystem service assessment to understand the 'value' of existing land use in terms of single and multiple benefits	Method_17	The placemaking agenda and its constituent approaches
Method_8	Use of integrated habitat networks (IHN) data to model ecosystem processes and intermediate services	Method_18	Spatial and thematic targeting of grants and incentives to deliver desired outcomes from land use/management
Method_9	Use of partnership working and formalised partnership agreements to deliver greater benefit than would otherwise be possible	Method_19	Using the LUS Principles as a guide or framework for relevant grant applications
Method_10	Cross-boundary partnership working	Method_20	Use of accreditation schemes to promote and encourage good-practice in sustainable land management

Figure 5.6 Methods/approaches used to apply the LUS Principles – frequency of usage across the eleven case study land use delivery mechanisms

5.92 As discussed at paragraph 5.89, the nature of the methods/approaches that were used less frequently highlights a useful point, namely that several of the methods/approaches identified through the research are context specific – e.g. Method_15 on the **use of supplementary guidance to LDPs and SDPs** is clearly only relevant to local and strategic planning authorities preparing their respective Development Plans. It is unsurprising therefore that this method was used by the two case studies that have a strong Town and Country Planning context – i.e. CSGN and the Glasgow LDP.

Method category	Methods/approaches identified from the eleven case study land use delivery mechanisms	LUS Principles									
		A Multiple benefits	B Regulation	C Primary use	D Ecosystem services	E Landscape change	F Climate change	G Vacant & derelict land	H Outdoor recreation & access	I Involving people	J Land use & the daily living link
Spatial analysis	Mapping core areas of primary land use to delineate a land use/management framework										
	Use of spatial analysis and spatial datasets to define constraints for land use/management										
	Use of spatial analysis and spatial datasets to identify opportunities for land use/management to deliver multiple benefits										
Environmental assessment	Use of EIA and its constituent impact assessment processes to inform significant land use/management change decisions										
	Use of SEA as a legal driver for considering other relevant PPS (including LUS) in plan-development										
	Use of SEA to support consideration and translation of LUS Principles										
Ecosystem services	Use of ecosystem service assessment to understand the 'value' of existing land use in terms of single and multiple benefits										
	Use of integrated habitat networks (IHN) data to model ecosystem processes and intermediate services										
Partnerships and governance	Use of partnership working and formalised partnership agreements to deliver greater benefit than would otherwise be possible										
	Cross-boundary partnership working										
Engagement and awareness-raising	Use of maps, visuals and other more novel techniques to engage the public and affected communities in land use/management decision-making										
	Use of case studies, good-practice, networking events and publicity to raise awareness of the benefits of sustainable land management										
	Use of carefully designed volunteering and educational programmes to engage the public in land use/management issues										
	Use of a 'neutral space' where land managers and regulators can come together to discuss issues										
Planning and design	Use of Supplementary Guidance to LDPs and SDPs to articulate key land use/management policy issues										
	Temporary use arrangements for brownfield sites										
	The placemaking agenda and its constituent approaches										
Grants and incentives	Spatial and thematic targeting of grants and incentives to deliver desired outcomes from land use/management										
	Using the LUS Principles as a guide or framework for relevant grant applications										
	Use of accreditation schemes to promote and encourage good-practice in sustainable land management										
Key											
Method strongly relevant to LUS Principle											
Method less strongly relevant to LUS Principle											
Method has no/limited relevance to LUS Principle											

Figure 5.7 Overview of methods/approaches identified in the research that may have some utility helping to translate the LUS Principles into decision-making 'on the ground'

5.93 Furthermore, some methods, by their very nature/type/characteristics are likely to have utility supporting the translation of several or all of the LUS Principles (e.g. all methods/approaches under the **grants and incentives** category – see Figure 5.7). Conversely, other methods are likely to be much

more focussed in terms of their utility in this regard (e.g. Method_16 on **temporary use agreements for brownfield sites** – see Figure 5.7). This is not to say that one method is better than the other *per se*, rather, land use/management practitioners should seek to use a suite of methods to deliver sustainable land use in a given context. In effect, the chosen suite of methods and approaches should be such that they can support the translation of all relevant LUS Principles⁶².

- 5.94 As such, when the Scottish Government and other land use stakeholders are considering the methods/approaches identified in this report, it will be important to also consider their relevance/applicability for different contexts. Figure 5.7 provides an overview of all twenty methods/approaches highlighting the LUS Principles they are strongly and less strongly relevant to. Strong and less strong relevance in this regard relates to the given method's utility helping to translate LUS Principles i.e. a strongly relevant method will have greater utility than a less strongly relevant method.
- 5.95 Figure 5.7 may also be a useful tool for the Scottish Government and other land use stakeholders to aid the consideration and prioritisation of different methods/approaches (e.g. focusing policy and methodology development on methods/approaches that help translate a specific LUS Principle or sub-set of Principles).

⁶² Recognising that based on the findings of this research (which was based on eleven case study land use delivery mechanisms), all ten LUS Principles are relevant in most contexts

6 BARRIERS TO THE APPLICATION OF THE LUS PRINCIPLES

- 6.1 Research Question No.4 asks *“are there any key barriers to the application of the LUS Principles? And if there are, what are the likely reasons and what lessons can be learned for more general application across Scotland”* Chapter 2 provides further information on the evaluation framework and the research questions.
- 6.2 This Chapter includes a summary of the analysis approach used for the Research Question No.4 evaluation and a summary of the barriers to application of the LUS Principles that have been identified through the research. Where relevant, this includes summary details of the likely reasons for the barriers as well as potential solutions and/or links to methods and approaches identified at Chapter 5 that could potentially help to overcome the barrier.

Analysis approach

- 6.3 The Research Question No.4 analysis approach involved four main steps which are detailed below:
- **Step 1:** Analysis of all primary and secondary data produced/gathered during the LUS Delivery Evaluation Project (i.e. interview notes/transcripts, document review, Research Question No.1 evaluations etc) to identify barriers to application of the LUS Principles evidenced by the eleven case study land use delivery mechanisms
 - **Step 2:** Categorising barriers from Step 1 in terms of LUS Principle relevance. In essence this step identifies which Principles the barriers have a strong/less strong relationship with – i.e. where the relationship is strong, the barriers are considered to exert a strong effect impeding the translation of LUS Principles
 - **Step 3:** Analysis of barriers from Step 1 to identify areas of overlap, differences and similarities to produce a consolidated list of barriers and to identify potential groupings or categories
 - **Step 4:** Analysis of relationships between barriers and method/approaches from Chapter 5 to help identify potential solutions to the identified barriers
- 6.4 Steps 1 and 3 identify the range of barriers evidenced by the eleven case study land use delivery mechanisms and also the frequency of their occurrence i.e. some barriers have been experienced by several case studies whereas others are only evident in one or two. Accordingly, one **potential** conclusion that can be drawn from this data is that the greater the number of case studies that have experienced a given barrier, the more significant the barrier is in terms of its impact on LUS Principle consideration/translation. This issue is picked up further in the synthesis section at the end of this Chapter.

- 6.5 That said, it is important to recognise that there may be some barriers that are highly significant for specific LUS Principles and/or in certain contexts or situations (i.e. specific land use delivery mechanisms). As such, these barriers should not be ignored or downplayed relative to barriers that have occurred more frequently.

Summary of barriers identified

- 6.6 Through the Research Question No.4 Step 1 analysis described above, 19 individual barriers were identified from the LUS Delivery Evaluation Project dataset. Via Step 3, these were then grouped into seven broad categories of barrier that may have some impact on the ability of land use delivery mechanisms to translate the strategic LUS Principles into decision-making 'on the ground'. These categories are as follows:

- Methods and data
- Grants, incentives and revenue
- Land manager skills, awareness and training
- Public awareness of land use issues
- Partnerships, governance and leadership
- Land use decision-making
- Land use policy interactions and constraints

- 6.7 The remainder of this Chapter describes each of these broad categories in turn including more detailed information on the specific barriers experienced and evidenced by the eleven case studies. Additional information includes: 1) suggested LUS Principles that the identified barriers could potentially impact in terms of translation 'on the ground'; and 2) potential solutions and/or links to methods and approaches from Chapter 5 that could potentially be used to help overcome the identified barriers.

Methods and data

- 6.8 A key issue highlighted and evidenced by a number of the case studies was the lack of data and suitable methods/approaches available to support integrated land use/management planning as per the LUS. Whilst this wasn't the case for all land uses or land management objectives (e.g. the use of modelling approaches and data to support the planning and management of IHNs for ecological connectivity was evidenced in a number of the case studies) there were key issues where this was felt to be the case.
- 6.9 In particular, poor data availability and a lack of methods were highlighted as key barriers to the consideration of LUS Principle F type issues in relation to land use/management planning for peat/carbon rich soils and natural flood management (NFM). In total the research has identified three specific barriers relating to **methods and data**. These are detailed in Table 6.1 along with an indication of which LUS Principles the barriers could potentially impact and a list of case studies where the barriers have been evidenced.

Table 6.1 Methods and data – specific barriers identified through the research

Barrier	Strongly relevant LUS Principles	Less strongly relevant LUS Principles	Case studies where the barrier has been evidenced
Lack of data and standardised methodologies/techniques means that some land uses and/or land management objectives are less well understood and planned for	A, C, D, E, F, H	I and J	<ul style="list-style-type: none"> • Buccleuch • CALL • DCP • FWS • LLTNP • Biosphere
Modelling approaches for planning land use/management change do not adequately consider practical constraints	A, C, D, E, F and H	Potentially all other LUS Principles	<ul style="list-style-type: none"> • DCP
Data and projections/models for predicting natural system response to climate change may be poor, making resilience planning a challenging process	A, C, D, E and F		<ul style="list-style-type: none"> • LLTNP

Lack of data and standardised methodologies/techniques

- 6.10 Data availability issues were highlighted by several of the case studies, especially in relation to water management data (e.g. data on flood extent and hydrology) and data on peat/carbon rich soils. A specific issue with data on peat/carbon rich soils was its resolution⁶³. Poor data resolution was considered to be particularly problematic where land use/management planning was heavily reliant on modelled approaches e.g. the use of spatial analysis to identify constraints to woodland planting in FWS-development. Particular problems and/or inefficiencies may occur where a relatively coarse dataset is combined with more granular datasets in spatial analyses – i.e. the value of the more granular datasets is lost in the analysis.
- 6.11 In the case of Buccleuch Estates and Perth and Kinross FWS, it was suggested that poor availability of suitable water management and peat/carbon rich soils data was impacting the organisations' ability to deliver land use/management for flood storage and carbon storage objectives (there are also key interactions with barriers relating to grants and incentives in this regard – see paragraph 6.17 onwards).
- 6.12 Crucially, both of these land use/management objectives are of particular relevance to LUS Principle F on **climate change** (both adaptation and mitigation) which, as discussed in Chapter 3 (see paragraph 3.21), was translated less well than some of the other Principles (fewer than half of the case studies translated LUS Principle F fully). As such, there may be some correlation between the less comprehensive translation of LUS Principle F and the specific nature of this barrier.

⁶³ For example the peat survey data available for purchase from the James Hutton Institute: [http://www.hutton.ac.uk/sites/default/files/files/Scottish_Peat_Surveys_Scottish_Peat_Committee_Macaulay_Institute\(1\).pdf](http://www.hutton.ac.uk/sites/default/files/files/Scottish_Peat_Surveys_Scottish_Peat_Committee_Macaulay_Institute(1).pdf) [accessed 26/03/14]

- 6.13 Several issues relating to the lack of standardised methodologies/techniques were highlighted including: 1) lack of standards and data for measuring specific ecosystem services (Buccleuch Estates and LLTNP); 2) lack of an agreed methodology for assessing ecosystem services more generally (Biosphere); and 3) uncertainty around the efficacy of Natural Flood Management (NFM) techniques (DCP).
- 6.14 In all of these cases, uncertainty and a lack of standardised and/or widely accepted methodologies were considered to be key barriers to the consideration and delivery of specific land use/management objectives. For example it was felt that land owners/managers would require a proven and consistent approach for ecosystem service assessment before data on ecosystem service values would be accepted as an input to decision-making processes. The UK Woodland Carbon Code⁶⁴ was held up as an example of good-practice in this regard.

Modelling approaches do not adequately consider practical constraints

- 6.15 This barrier is related to the concern that some modelling approaches for land use/management planning and delivery do not adequately consider practical constraints. For example, ecosystem service assessments can be used to identify land use/management options for the enhancement of specific ecosystem services. There is a concern, however, that models are overly reliant on biophysical parameters and do not adequately consider socio-economic factors such as land ownership and community aspirations for land use and land management. Where possible, one potential solution to this barrier might be to incorporate additional datasets in relevant modelling approaches – e.g. consideration of datasets on planning policy and land ownership as an integral part of ecosystem service mapping approaches.

Modelling the response of natural systems to climate change is challenging

- 6.16 This barrier recognises that data and projections/models for predicting and understanding how natural systems might respond to climate change are often poor. As a result, landscape scale climate change resilience planning for habitats and species can be a challenging process, especially when the nature of climate change and climate change impacts is uncertain. It was also suggested that there is currently a strong focus on how we (i.e. institutions, communities etc) can use the natural environment and green infrastructure to help us adapt to climate change (e.g. NFM) but with little focus on management changes that may be required to help nature adapt.

Grants, incentives and revenue

- 6.17 Undoubtedly the nature and scope of the support available to land managers through grant and incentive mechanisms, such as Pillar I and II of the Common Agricultural Policy (CAP), has a dramatic impact on land use and

⁶⁴ Forestry Commission – UK Woodland Carbon Code homepage:
<http://www.forestry.gov.uk/carboncode> [accessed 26/03/14]

land management in Scotland⁶⁵. As such, it is unsurprising that issues relating to grants and incentives for land management have been identified in the LUS Delivery Evaluation Project, both in relation to methods/approaches that can help translate the LUS Principles (e.g. the use of locational premiums to deliver specific land management objectives in certain areas – see paragraph 5.79) and in relation to barriers to translation.

- 6.18 In total the research has identified two specific barriers relating to **grants, incentives and revenue**. These are detailed in Table 6.2 along with an indication of which LUS Principles the barriers could potentially impact and a list of case studies where the barriers have been evidenced.

Table 6.2 Grants, incentives and revenue – specific barriers identified through the research

Barrier	Strongly relevant LUS Principles	Less strongly relevant LUS Principles	Case studies where the barrier has been evidenced
Grants and incentives for land management are not currently set-up to deliver multiple benefits in diverse contexts	A, B C, D, E, F and J	H	<ul style="list-style-type: none"> • Buccleuch • CSGN • CALL • LLTNP • NHT • WES
Limited revenue options from managing peat and floodplains for regulating ecosystem services and few grants or incentives available to support land management for these services	A, C, D and F	E	<ul style="list-style-type: none"> • Buccleuch

Grants and incentives are not currently set-up to deliver multiple benefits in diverse contexts

- 6.19 Several of the case studies highlighted specific issues concerning the scope and utility of the current grants/incentives landscape in Scotland, especially in relation to Pillar II of the CAP – i.e. the Scotland Rural Development Programme⁶⁶ (SRDP). Crucially however, all of these issues were identified during interviews undertaken, for the most part, during 2012 and 2013 and are therefore of greater relevance to the extant SRDP (for the period 2007-2013) as opposed to the new SRDP (for the period 2014-2020⁶⁷).
- 6.20 As such, it may be the case that some of the barriers/issues outlined here have been addressed in the proposed SRDP e.g. support for integrated land management plans (ILMPs), whole farm plans and co-operative action (i.e.

⁶⁵ See, for example, the Mid Term Evaluation of the SRDP 2007-2013:

<http://www.scotland.gov.uk/Resource/Doc/346698/0115341.pdf> [accessed 27/03/14]

⁶⁶ Scottish Government – SRDP homepage: <http://www.scotland.gov.uk/Topics/farmingrural/SRDP> [accessed 26/03/14]

⁶⁷ At present, the Scottish Government anticipate that the SRDP 2014-2020 will be launched in January 2015:

<http://www.scotland.gov.uk/Topics/farmingrural/SRDP/SRDP20142012/SRDP20142012> [accessed 26/03/14]

cross-boundary partnership working at the landscape/ecosystem scale). In the interests of comprehensiveness however all relevant issues have been included below.

- 6.21 One key concern identified in relation to the SRDP was the overly complex and prescriptive nature of its grants and incentives regime. In particular there was a feeling that the extant SRDP is characterised by multiple schemes and options designed to deliver single benefits as opposed to just a few designed to deliver multiple benefits. Similarly, there was concern that the prescriptive nature of some agri-environment options can limit their applicability in certain contexts. As a result, scheme uptake can be constrained, even if there is another more locally relevant means of achieving a similar outcome. There may be scope for these barriers to be addressed through scheme and option design as part of the final stages of developing and launching the new SRDP⁶⁸.
- 6.22 In terms of specific land uses and land management objectives, concern was expressed that the forestry grant scheme element of the SRDP is geared too much towards land management objectives instead of ecosystem service objectives – i.e. land managers are paid to plant trees for the sake of planting trees with limited consideration of how forest design and location can support the delivery of multiple benefits. One potential solution to this barrier is to tie forestry grant support more closely to FWS, which are premised on multifunctional forestry objectives as per the Forestry Commission Scotland's (FCS) Right Tree in the Right Place guidance (FCS, 2010) through the use of locational premiums (see paragraph 5.79).
- 6.23 Similarly, limited support for land managers in Scotland's Less Favoured Area (LFA) through the LFA Support Scheme (LFASS) was highlighted as a specific challenge for certain land management objectives. In particular, the need for a degree of extensive land management (e.g. grazing) in order to maintain peat habitat was highlighted as a specific benefit that could be lost or reduced, depending on the availability and scope of LFASS support. This barrier may have implications for the management of peat/carbon rich soils and, similarly to the above, it could potentially be addressed through the use of locational premiums (e.g. LFASS and certain agri-environment options).

Limited revenue options available from peat and floodplain management

- 6.24 The management of peatland and floodplains can provide key public goods in terms of carbon storage and flood storage respectively. Despite these benefits, the revenue options available from peat and floodplain management may be limited (e.g. there may be some limited revenue available from peatland which can provide cover for game birds). In the floodplain, woodland planting and management could enhance flood storage ecosystem services as well as providing a timber revenue, though timber quality may be impacted

⁶⁸ Similar issues were picked up in mitigation recommendations as part of the Strategic Environmental Assessment (SEA) process undertaken during the development of the SRDP 2014-2010: <http://www.scotland.gov.uk/Resource/0044/00444559.pdf> [accessed 26/03/14]

by the wet ground conditions (though this will also depend on species choice and silvicultural treatment e.g. use of mounding).

Land manager skills, awareness and training

- 6.25 Whilst many aspects of the LUS are reflective of widely held tenets of good land management, other aspects could be regarded as more novel and/or more of a reflection on the modern policy agenda (e.g. land management for climate change objectives, use of the ecosystems approach etc).
- 6.26 Equally, context is an important factor – although the LUS is designed and intended to be applicable to all land use/management planning contexts, land use planners and land managers working in different locations and contexts will undoubtedly have different skills and experiences. As such, there is scope for the LUS to be interpreted and delivered in different ways.
- 6.27 In light of the above, several key barriers and challenges were identified in relation to land manager skills, awareness and training type issues. These barriers recognise that whilst there is clearly a huge body of knowledge and experience within Scotland's land managers, there will inevitably be a need for the development of new skills and training and improved awareness of new and emerging land use/management issues. In total the research has identified three specific barriers relating to **land manager skills, awareness and training**. These are detailed in Table 6.3 along with an indication of which LUS Principles the barriers could potentially impact and a list of case studies where the barriers have been evidenced.

Table 6.3 Land manager skills, awareness and training – specific barriers identified through the research

Barrier	Strongly relevant LUS Principles	Less strongly relevant LUS Principles	Case studies where the barrier has been evidenced
Difficulty/challenges/inertia in changing to more integrated land use planning and management practices	A, C, D, E, F, H and I	Potentially all other Principles	<ul style="list-style-type: none"> • Buccleuch • FWS
The challenge of land management for climate change adaptation, especially if there are no apparent climate change impacts within the management area	D and F	A, C and E	<ul style="list-style-type: none"> • Buccleuch • DCP
Project officers, managers etc involved in practical land management work may not have the full range of skills required or support available to deliver partnership based projects	I	J	<ul style="list-style-type: none"> • CALL • DCP

Difficulty changing to more integrated land use planning and management practice

- 6.28 Traditionally, land management practice has focussed on single objectives to maximise revenue from a given parcel of land. A key example in this regard is

single species (e.g. Sitka spruce) productive forestry under a clearfell silvicultural regime. The LUS requires a more integrated approach to land use/management for the delivery of multiple benefits including consideration of ecosystem function issues, options for climate change mitigation and adaptation, recreation and access issues and landscape integration.

- 6.29 Whilst this research has highlighted key examples of integrated land use in action (e.g. the Buccleuch Estates WEDP approach and the Biosphere Partnership's integrating land and water management catchment scale stakeholder engagement approach) some of the case studies also raised concerns and potential barriers in terms of challenges, difficulties and inertia that may be preventing a move towards more integrated practice.
- 6.30 Taking FWS as a case in point, although the development of multifunctional forestry as per the RTRP guidance (FCS, 2010) has a key role to play supporting both climate change mitigation and adaptation (e.g. contributing to NFM), concern was expressed that there are no apparent measures being taken to integrate forest planning and management with the management and restoration of peatlands (other than considering peat/carbon rich soils as a constraint to forest development in spatial analysis).

The challenge of undertaking land management for climate change adaptation where impacts are not apparent

- 6.31 This barrier is closely related to the barrier discussed at paragraph 6.24 in relation to the issue of limited revenue options from peatland and floodplain management for key regulating ecosystem services. In this regard, although there is a move towards catchment scale sustainable flood risk management (FRM) in Scotland (Scottish Government, 2011d), there is arguably still a poor understanding of flooding and flood risk and how land management in the upper/mid catchment can influence the likelihood and consequences of flooding downstream. As described at paragraph 6.10 onwards, this issue may be compounded by a lack of data, proof of concept studies (e.g. for NFM efficacy) and standardised methodologies to support land use/management planning for key regulating ecosystem services.
- 6.32 One potential solution to this could be through the use of locational premiums (e.g. through key SRDP schemes) to target land management support for natural flood management (NFM) type measures. Key examples in this regard could include appropriate mid-upper catchment woodland planting (e.g. floodplain woodland, targeted small scale agro-forestry) and river restoration (e.g. restoring meanders, reversing historic canalisation, increasing length/decreasing gradients etc).
- 6.33 Additionally, the Flood Risk Management Strategies and Local Flood Risk Management Plans that are currently being developed for adoption in 2015 and 2016 respectively will put sustainable, catchment scale FRM, as per the requirements of the Flood Risk Management (Scotland) Act 2009, into action (SEPA, 2012). Depending on the specific issues within each FRM Act Local Plan District, this may include land management related structural measures such as floodplain woodland planting and river restoration.

Practical land managers may not have the full range of skills or necessary support required to deliver partnership based projects

- 6.34 The pressure to deliver action ‘on the ground’ within partnership based and/or community focussed land management projects and initiatives (e.g. CALL and DCP) can be such that resource and recruitment is focussed more on personnel with practical land management and/or conservation management skills. However the scope of these types of project/initiative can be such that personnel are required to design and lead practical land and conservation management plans and projects whilst also designing and delivering community consultations/events, writing funding bids etc.
- 6.35 Inevitably therefore there is scope for certain aspects of project delivery to be delivered less well than others, dependent on the skills and support available. In this regard, it may be the case that the more social/community development aspects of projects are delivered less well as the core skill sets of key personnel are often more focussed on practical land/conservation management. This issue may have links with the barrier below (see paragraph 6.44 onwards) relating to the delivery of transformational land use change – i.e. there is a strong imperative for partnership and/or community based land management projects to quickly deliver tangible results ‘on the ground’ to maintain support from partners and help secure additional funding.

Public awareness of land use issues

- 6.36 The barriers discussed above at paragraph 6.25 onwards are specifically related to land management professionals. The LUS also has key objectives and Principles (especially I and J) on increasing public and community involvement in land use/management planning and delivery. In this regard, the research has identified two important barriers relating to **public awareness of land use issues**. These are detailed in Table 6.4 along with an indication of which LUS Principles the barriers could potentially impact and a list of case studies where the barriers have been evidenced.

Table 6.4 Public awareness of land use issues – specific barriers identified through the research

Barrier	Strongly relevant LUS Principles	Less strongly relevant LUS Principles	Case studies where the barrier has been evidenced
Difficulty balancing different community land management initiative objectives	A, C, D, E, F, I and J		<ul style="list-style-type: none"> NHT
Lack of awareness or understanding of the practicalities of managing land for specific objectives	All LUS Principles		<ul style="list-style-type: none"> NHT

Difficulty balancing community land management objectives

- 6.37 Increasingly there are opportunities for communities to get involved in practical land management activities on land in community ownership (e.g. through the Land Reform (Scotland) Act 2003 community right to buy provisions) or land that has been leased by the community (e.g. the Glasgow

City Council Stalled Space Initiative – see paragraph 5.68 onwards). There is also a range of funding available to community groups to support land management activity including, for example, the CSGN Development Fund⁶⁹, various schemes and options under the SRDP and the Climate Challenge Fund⁷⁰, to name but a few. Furthermore, the Community Empowerment (Scotland) Bill⁷¹, if passed, will reform community right to buy and make it easier for communities to take over public land and buildings.

- 6.38 The nature of community based land management initiatives (i.e. those that involve some or all of the community) is such that a large number of people have a stake in the project. Even with clear, transparent and effective governance of community projects (see Chapter 5 paragraph 5.47 onwards), the breadth of interests and personalities involved may be such that there is internal conflict between objectives and priorities. Conflicts can become more pronounced where objectives/priorities are polarised between economic and environmental/social goals e.g. habitat management/conservation vs. forestry and energy development.
- 6.39 Clearly there are compromises and compatibilities to be sought across divergent objectives such as these but differences of opinion can create challenges and barriers in social settings e.g. community based land management projects. Potential solutions to overcome this barrier include the use of effective governance models for partnership based projects (see paragraph 5.47 onwards) and the use of effective engagement and awareness raising activities to communicate and discuss issues and proposals (see paragraph 5.52 onwards). As discussed above (see paragraph 6.25 onwards) in relation to the **land manager skills, awareness raising and training** barrier however, it may be the case that professionals employed by community projects have more limited skills/support in relation to community engagement, consultation, facilitation etc.

Lack of awareness or understanding of practical land management

- 6.40 Whilst there are strong policy and grant/incentive mechanisms to encourage community groups to get involved in practical land management activities and projects, concern was expressed that there can be a lack of awareness or understanding of the practicalities of managing land for specific objectives. This was felt to be the case particularly for local level/grassroots community groups with limited expertise or experience in land management – i.e. there is a perception that land is effectively ‘self-managing’ which can lead to nasty surprises when people find out what is required to keep land in active management. There is therefore an associated risk of land coming out of

⁶⁹ CSGN Development Fund pages:

<http://www.centralscotlandgreennetwork.org/resources/funding/csgn-development-fund> [accessed 27/03/14]

⁷⁰ Climate Challenge Fund pages: <http://www.keepsotlandbeautiful.org/sustainability-climate-change/climate-challenge-fund/> [accessed 27/03/14]

⁷¹ Scottish Government news item on the new powers for Scotland’s communities under the Community Empowerment (Scotland) Bill: <http://news.scotland.gov.uk/News/New-powers-for-Scotland-s-communities-5e5.aspx> [accessed 01/05/14]

active management if skills are not available or if will and enthusiasm becomes eroded.

- 6.41 Concern was also expressed that there may be a general lack of awareness amongst the public/communities in relation to the largely manmade and dynamic nature of the landscape. For example there may be a perception that a given mixture of habitats and species within a landscape can be maintained indefinitely though in reality this is a bogus objective, especially with climate change. Similarly to the barrier above on **balancing community land management objectives**, this barrier could potentially be exacerbated if professionals employed as part of community projects have more limited skills or support in relation to community engagement, consultation, facilitation etc.

Partnerships, governance and leadership

- 6.42 The use of effective partnerships and governance has been highlighted in the LUS Delivery Evaluation Project as a useful method/approach for translating the LUS Principles (see Chapter 5 paragraph 5.47 onwards). The corollary of this of course is that poor partnership working and a lack of effective governance and leadership can provide a barrier to the translation of LUS Principles.
- 6.43 In this regard, the research has identified four important barriers relating to **partnerships, governance and leadership**. These are detailed in Table 6.5 along with an indication of which LUS Principles the barriers could potentially impact and a list of case studies where the barriers have been evidenced.

Table 6.5 Partnerships, governance and leadership – specific barriers identified through the research

Barrier	Strongly relevant LUS Principles	Less strongly relevant LUS Principles	Case studies where the barrier has been evidenced
Lack of funding/resources, buy-in and political will to deliver transformational land use/management change	All LUS Principles		<ul style="list-style-type: none"> • CSGN • CALL • NHT
Difficulty of putting in place strong governance arrangements for voluntary partnerships	Potentially all LUS Principles		<ul style="list-style-type: none"> • CALL
Governance and delivery challenges in large and/or complex partnerships	Potentially all LUS Principles		<ul style="list-style-type: none"> • CALL • LLTNP • Biosphere
Challenge of broad scale (spatial extent and breadth of sectors covered) land use/management planning and delivery without a statutory remit	Potentially all LUS Principles		<ul style="list-style-type: none"> • DCP

Lack of funding etc to deliver transformational land use/management change

- 6.44 Several of the case study land use delivery mechanisms considered in this research have very ambitious visions and objectives in terms of the desired land use/management change they plan to achieve. For example:

- *“By 2050, Central Scotland has been transformed into a place where the environment adds value to the economy and where people’s lives are enriched by its quality” (CSGN Partnership Board, 2011a p.2)*
- *“It is 2050; the communities of Coigach and Assynt are working together to achieve a truly living landscape through improved understanding of their environment and the impacts of climate change; shared active management providing a diverse range of connected and resilient habitats; creation of local employment and training opportunities, and; building on the communities’ strong cultural heritage linked to the land” (CALL Partnership, 2011 p.3)*

- 6.45 Whilst these aims are laudable and clearly have the potential to help deliver the objectives of the LUS and translate the LUS Principles, concern was expressed that a lack of funding, resources and wider community/stakeholder buy-in, combined with faltering political will, could put projects at risk of not delivering. In this regard, these issues could potentially create barriers to the translation of all LUS Principles.
- 6.46 In terms of funding and resources specifically, there were concerns that delivering transformational land use change that goes beyond ‘business as usual’ will require significant funding and resource that may simply not be available. This issue may be compounded by reduction in ambition and the scaling back of objectives as local authority budgets and other resources are reduced, in line with wider austerity measures.
- 6.47 In this regard, although partnership working has the potential to deliver outcomes that are potentially ‘greater than the sum of the parts’ (see the section on **partnerships and governance** in Chapter 5 – paragraph 5.47 onwards), reduced resource within the partners (including human resources) may have a significant impact on the scope of what the partnership can realistically deliver. There is perhaps no easy fix to funding/resource issues in this regard though one potential solution (or at least a mitigating factor) could be to ensure that the various grant and incentive regimes are aligned and prioritised to deliver the required outcomes in the right locations (e.g. through the use of locational premiums as discussed at paragraph 5.79 onwards).
- 6.48 Specific issues were also highlighted in relation to political will and the need for ‘good news stories’ to maintain interest in land use/management projects and activities. In particular, there was concern that political will and support/backing for projects may be lost if tangible ‘on the ground’ change isn’t delivered quickly enough. Given the timescales involved in planning, designing, delivering and managing many land use/management delivery projects (e.g. woodland development and management, ecosystem/habitat restoration, active travel network improvements, community growing projects etc), there is clearly a risk of this happening if politicians aren’t adequately briefed.
- 6.49 Similarly, where partnerships are less formal, there is a potential risk of partnerships faltering and/or breaking down if successes and good news stories don’t happen quickly enough. One potential solution to some of these

issues/barriers is to put in place effective governance arrangements, covering an appropriate time period, to ensure support for programmed actions (see paragraph 5.47 onwards). There is also an issue in terms of security of revenue support and the availability of capital funding to support projects beyond the design or planning phase. This may be a particular issue for community based partnerships which can sometimes take a long time to coalesce to the extent that they are in a position to take advantage of funding and grants.

- 6.50 In terms of buy-in (including buy-in from affected communities), where dramatic/transformational land use/management change is proposed (e.g. as per the CSGN and CALL – see paragraph 6.44) there is a risk that the proposed changes may not be popular with stakeholders and the affected communities. This may be particularly significant where the proposed changes are perhaps more focussed on delivering benefits for biodiversity, landscape and climate change objectives. In this regard, not having the community ‘onboard’ from the outset can cause barriers and delays at later stages. The use of effective community consultation (see paragraph 5.52 onwards) can help to mitigate these risks by encouraging and facilitating involvement in land use/management decision-making.

Difficulty of putting in place strong governance arrangements for voluntary partnerships

- 6.51 As described in the sub-section above, the maintenance of partnerships is fundamental for the delivery of partnership based land use/management initiatives and projects. For smaller, less formal partnerships involving partners from a range of different sectors (include private business and charities/NGOs), there is a concern that reliance on partnership arrangements that have no legal or financial ‘teeth’ (e.g. where charters or Memorandum of Understanding documents are more like a statement of goodwill) can result in land use/management delivery taking longer than expected as there is no strong and/or legal obligation for partners to deliver.
- 6.52 Similarly, partnership working may be more challenging where the partners are engaged/supportive to varying degrees – in effect it can be challenging for project managers to drive project delivery, especially where there are no strong legal/financial obligations in place.
- 6.53 Depending on the scope of the project or initiative’s land use/management activity, this barrier may impact all LUS Principles as progress is delayed. As per the barrier above, one potential solution to some of these issues/barriers is to put in place effective governance arrangements, covering an appropriate time period, to ensure support for programmed actions (see paragraph 5.47 onwards).

Governance and delivery challenges in large and/or complex partnerships

- 6.54 Whilst the barrier described in the sub-section above deals specifically with issues concerning voluntary partnerships, issues may also arise where

partnerships are large and/or complex (recognising that voluntary partnerships may also be large and complex).

- 6.55 Partnerships involving community land ownership are considered to raise particular challenges due to the greater number of people that have a stake in decision-making. Potential differences of opinion may further compound this issue (e.g. pursuing a land use/management strategy based on economic development vs. a more conservation focussed strategy as an extreme example). This issue is also reflected under the **public awareness of land use issues** barrier at paragraph 6.36 onwards.
- 6.56 Looking specifically at the public sector, concern was expressed that working in partnership with multiple large public sector organisations (e.g. local authorities, government agencies etc) can be challenging due to the scale and complexity of the organisations. Furthermore, integrated land use/management planning and delivery at scale (e.g. whole catchments, whole local authority areas etc) requires significant cross-sector partnership working and setting up the required working arrangements can be challenging or even impossible in some circumstances.

The challenge of broad scale land use/management planning and delivery without a statutory remit

- 6.57 In relation to this barrier, 'broad scale' includes both spatial extent and number of sectors/activities covered. Broad scale land use/management planning and delivery in this regard can be undertaken specifically to work with natural systems – e.g. aligning the management area to the area of land encompassed by a water catchment or river basin.
- 6.58 In this sense, the management area is likely to cut across multiple traditional boundaries including local authorities, land ownerships, SRDP Regional Proposal Assessment Committee (RPAC) regions etc. As a result, clarity of roles and responsibilities can be crucial as is effective partnership working and governance arrangements to ensure that all partners and affected parties agree with priorities, objectives, actions and governance arrangements. Where this is not the case, land use/management delivery may breakdown.

Land use decision-making

- 6.59 A key objective of the LUS is *“Urban and rural communities better connected to the land, with more people enjoying the land and positively influencing land use”* (Scottish Government, 2011a p.3). This objective is supported, in particular, by LUS Principle I on **involving people** and J on **land use and the daily living link**. In this regard, the importance of creating and encouraging opportunities whereby people can influence land use decision-making is enshrined within the LUS.
- 6.60 As such, it is a significant issue that the research has identified two important barriers relating to **land use decision-making**. These are detailed in Table 6.6 along with an indication of which LUS Principles the barriers could

potentially impact and a list of case studies where the barriers have been evidenced.

Limited opportunity to influence private land use/management objectives that deliver public goods

6.61 This barrier recognises how, in essence, land use/management decisions are largely dictated by landowner preferences. In this regard, the opportunity for the public and affected communities to engage in and influence land use/management decision-making is perhaps more constrained than the LUS would like. Also, there is (at least) a perception that regulatory control of land use/management is limited with most influence being realised through the grant and incentive regime (e.g. Pillar I and II of the CAP).

Table 6.6 Land use decision-making – specific barriers identified through the research

Barrier	Strongly relevant LUS Principles	Less strongly relevant LUS Principles	Case studies where the barrier has been evidenced
Limited opportunity to influence private land use/management objectives that deliver key public goods	A, B, C, G, I and J	D, E, F and H	<ul style="list-style-type: none"> • CSGN • Glasgow LDP • Monitor Farms • WES
Lack of empowerment within affected communities and/or willingness to engage in land use/management decision-making	Potentially all LUS Principles (especially I)		<ul style="list-style-type: none"> • CALL • LLTNP • NHT

6.62 Whilst grants and incentives undoubtedly influence land use/management in Scotland (see paragraph 6.17 onwards on barriers relating to **grants and incentives**), their influence will inevitably be dictated by the support available and the benefits accruing to the landowner. On the other hand there can be tremendous ‘hope value’ in some areas (especially peri-urban and greenbelt land) where landowners hold onto sites (i.e. land banking) in the hope that land values will improve⁷² (e.g. housing market improvements as the economic recovery continues). As a result, land can lie vacant or underused (i.e. out of active management) and therefore not deliver multiple benefits.

6.63 In some instances therefore, there may be a case for extra controls/regulation (in conjunction with grants and incentives) to influence the behaviour of landowners and ensure that land delivers multiple benefits e.g. byelaws, compulsory purchase order (CPO) and legislation. This may be the case particularly for landowners in possession of VDL and underused land that runs the risk of falling into further disrepair.

6.64 Similarly to the above, there was evidence from several case studies of landowner reluctance to release sites on temporary leases e.g. temporary greening of VDL sites as the Glasgow City Council Stalled Spaces Initiative (see paragraph 5.68). There is evidence that landowners are concerned that

⁷² Clearly there are also strong interactions with planning policy in this example – e.g. planning consent for housing development may not be possible on greenbelt land

temporary projects may become 'permanent' in the eyes of the community, even though the temporary lease arrangements often have legal status.

- 6.65 The constraints posed by private land ownership were highlighted at more regional scales also. In particular, the LLTNP case study outlined the challenge of delivering a regional scale land use/management strategy (such as the National Park Partnership Plan – the NPPP) where land is in primarily private ownership. This issue can be compounded where land ownership is disparate and fragmented – i.e. simply mapping land ownership can be a challenge, let alone securing support for the objectives of a regional level strategy. One potential solution to this issue is the use of effective **engagement and awareness raising** (see paragraph 5.52) with landowners to try and build consensus over shared priorities and objectives for land use. This, in essence, is the approach adopted by the Biosphere Partnership in their integrating land and water management catchment scale stakeholder engagement approach (see Appendix 4 paragraph 4.72).

Lack of empowerment within affected communities or willingness to engage in land use/management decision-making

- 6.66 Although the LUS has a strong agenda on involving people in land use decision-making, a key barrier to the delivery of this agenda is the potential lack of empowerment within affected communities or willingness to engage in decision-making processes. The potential reasons for this barrier are multiple. The LUS Delivery Evaluation Research has helped to highlight some key reasons of direct relevance to participation in land use/management decision-making. These include:
- **Lack of awareness:** some communities are not used to being consulted and/or are simply not aware of their stake in land use/management decisions
 - **Engagement at the appropriate decision-making level:** it can be challenging to support and encourage people to engage in strategic level land use/management decision-making where peoples' input can have a significant impact on strategy and policy-development (e.g. consultation on the proposed SRDP 2014-2020, Local Development Plans at the Main Issues Report stage etc). People tend to get involved when decisions have a direct impact on them (e.g. a planning decision)
 - **Social interaction within communities:** tensions, mistrust and personality conflicts within communities can discourage people from taking part in decision-making processes and/or volunteering for governance roles (e.g. board membership)
 - **Consultation fatigue:** this can be a particular issue where communities are affected by several projects (often all with similar but slightly different agendas and activities) that end up competing for community input to consultations. A potential solution to this barrier is to use effective **engagement and awareness raising** tools and approaches (see paragraph 5.52) and to share intelligence between organisations

Land use policy interactions and constraints

- 6.67 The final barrier category identified in the research relates to issues around the interactions of land use policy in Scotland and the potential for constraints and conflicts to occur as a result. This barrier also reflects anecdotal evidence that the LUS is a bit of an ‘unknown quantity’ to some land use stakeholders in Scotland as well as the perception that the LUS is perhaps more relevant to rural land use/management planning issues.
- 6.68 In this regard, the research has identified three important barriers relating to **land use policy interactions and constraints**. These are detailed in Table 6.7 along with an indication of which LUS Principles the barriers could potentially impact and a list of case studies where the barriers have been evidenced.

Table 6.7 Land use policy interactions and constraints – specific barriers identified through the research

Barrier	Strongly relevant LUS Principles	Less strongly relevant LUS Principles	Case studies where the barrier has been evidenced
Significant areas of primary land use within a management area can constrain options for the delivery of multiple benefits	A and C	D, E, F and H	<ul style="list-style-type: none"> • DCP
Uncertainty as to the role and strategic fit of the LUS relative to other national level policy and strategy	All LUS Principles		<ul style="list-style-type: none"> • Glasgow LDP • Biosphere
Potential inconsistencies in public policy affecting land use/management	All LUS Principles		<ul style="list-style-type: none"> • Biosphere

Significant areas of primary land use constraining options for the delivery of multiple benefits

- 6.69 Land management units comprising a large proportion of primary land use can be heavily constrained in terms of delivering land use/management for multiple benefits. In effect, the delivery of multiple benefits from land is constrained by land value and/or the value of revenue streams that primary land uses support. Also, much of this sort of land is in private ownership and there is therefore limited opportunity for the public to inform land use decision-making (see barriers on **land use decision-making** at paragraph 6.58).
- 6.70 Also, concern was expressed that the nature of the current grants and incentives regime for land management in Scotland (e.g. Pillar I and II of the CAP) is more focussed on the management of areas of primary land use for the delivery of single or few benefits (see barriers on **grants, incentives and revenue** at paragraph 6.17 above). In this regard there are potential conflicts between national level policies (e.g. between the LUS and grant/incentive policy for agriculture and rural development). As discussed at paragraph 6.20 however, many of these issues may be resolved with the adoption of the new SRDP in January 2015

Uncertainty as to the role and strategic fit of the LUS relative to other national level policy and strategy

- 6.71 There was some uncertainty as to the exact role and strategic fit of the LUS. In particular there was uncertainty as to how the LUS relates to other key national level policies and strategies such as the National Planning Framework (NPF) and Scottish Planning Policy (SPP). In planning terms, it was felt that the LUS is not really on the agenda of local planning authorities who would be unlikely to consider the LUS unless it came up at enquiry. There was also uncertainty as to the statutory basis/mandate of the LUS in relation to Development Plans and planning decisions⁷³.
- 6.72 There is also a degree of misunderstanding as to the exact focus and remit of the LUS – i.e. the feeling that it is somehow more relevant to rural land use/management planning than it is urban. Anecdotal evidence suggests that this misunderstanding is demonstrated more widely (e.g. the misunderstanding was evident when speaking to delegates at relevant conferences such as the Scottish Government LUS event in June 2012 and the CSGN Forum in June 2013). Furthermore, evidence from this research suggests that the role of the LUS may not be fully understood by various local authority officers (including planners) and elected members.

Potential inconsistencies in public policy affecting land use/management

- 6.73 Two specific issues were highlighted in relation to this barrier. Firstly, concern was expressed that the lack of a strong policy steer on some land use issues may mean that some primary land uses are not properly considered in decision-making, potentially resulting in degradation. The specific example provided was peat/carbon rich soils. This issue is potentially compounded by: 1) lack of data and standardised methodologies/techniques for integrating peat/carbon rich soils into land use/management decision-making (see barriers on **methods and data** at paragraph 6.8); and 2) the nature of the extant grants/incentives regime and limited revenue options available from peatland management for carbon storage (see barriers on **grants, incentives and revenue** at paragraph 6.17).
- 6.74 Secondly, specific concerns were highlighted in relation to the potential incompatibility of certain public policies. In effect, such conflicts can make it more challenging for land use/management planning stakeholders to consider the LUS in their decision-making. This was felt to be the case particularly in relation to the 'squeezed middle'. In simplistic terms this is the land in between the lowlands (where land use/management options are heavily constrained by the presence of better quality agricultural land e.g. land suitable for arable and mixed agriculture⁷⁴) and the upland areas (where land

⁷³ In March 2011, following the adoption of the LUS, the Scottish Government Built Environment Director and Chief Planner issued a letter to all heads of planning setting out the role of the LUS in the statutory planning system in Scotland

⁷⁴ Equating to Land Capability for Agriculture (LCA) classes 1 – 4.2 from the Macaulay land capability system: <http://www.macaulay.ac.uk/explorescotland/lca.html> [accessed 28/03/14]

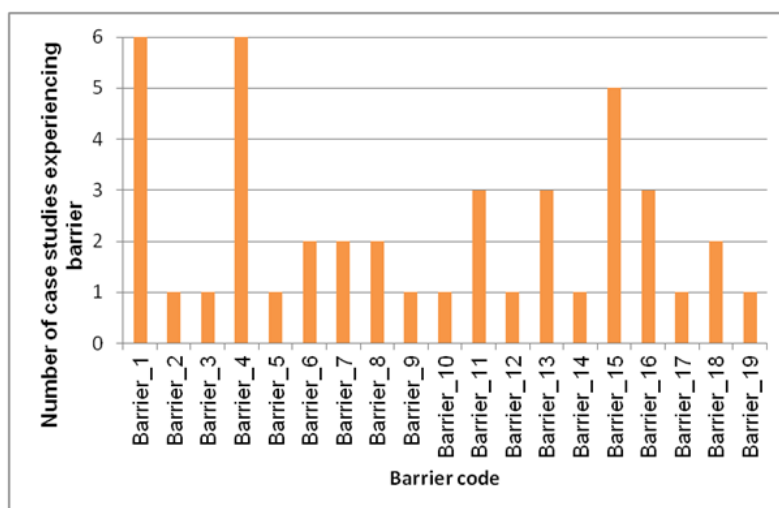
use/management options are heavily constrained by biophysical issues, landscape/natural heritage policy, presence of peat/carbon rich soils etc).

- 6.75 An example policy conflict evidenced in the research was the potential incompatibility of the Birds Directive and Habitats Directive and the Scottish Government's policy on afforestation. Forest development is considered to be a particular 'pressure' on land in the 'squeezed middle' (i.e. this is the only land where significant forest development can feasibly take place) yet this sort of land is often an important habitat for species protected by European conservation policy (e.g. certain species of raptor). Whilst there is potential for these sorts of conflict to be overcome (e.g. through the use of sensitive forest design and appropriate management practices), in simplistic terms at least, the two land uses (i.e. natural heritage conservation vs. forestry) are seen as incompatible.
- 6.76 This is perhaps the exact type of land use planning issue that the LUS and its ten Principles are intended to help address. However, the immediate barrier of incompatible public policies may be deterring land use stakeholders from fully engaging with the LUS. Potential solutions to this barrier could include the more consistent and integrated (e.g. cross-sector) use of key methods and approaches highlighted in this research, especially **spatial analysis** (see paragraph 5.8 onwards), **environmental assessment** (see paragraph 5.18 onwards) and **ecosystem services** (see paragraph 5.32 onwards).
- 6.77 Spatial analysis in this context may have particular utility helping to scope out key constraints and opportunities for integrated land use strategies. Similarly, the use of ecosystem service assessments can highlight the 'value' (either monetary or nominal) of all land uses, potentially helping to make the case for development in one area vs. habitat restoration in another. Finally, the use of environmental assessment (SEA for plans and programmes and EIA for projects e.g. forest development) can help to identify impacts that may influence sustainable land use outcomes as well as supporting transparency in decision-making and providing mechanisms for public and affected community engagement and consultation on proposals.

Summary of key themes/issues identified

- 6.78 The sub-sections above describe the nineteen key barriers, identified through this research, that have potential to impact the translation of the ten LUS Principles into decision-making 'on the ground'. Each sub-section describes the likely reasons for the barriers (as evidenced by the eleven case studies considered in this research) and, where relevant, potential solutions that may help overcome the barriers. Potential solutions have often been identified on the basis of the twenty methods/approaches, identified through this research, that may have some utility helping to translate the LUS Principles into decision-making 'on the ground' (see Chapter 5).
- 6.79 As touched on briefly at the start of this Chapter (see paragraph 6.4), another way of analysing the barriers data is to look at the frequency with which case studies are experiencing the nineteen different barriers. This analysis is undertaken by considering the number of case studies that have experienced

a given barrier, as indicated in the summary tables at the start of each sub-section – see Table 6.7 for example. In this regard, the most widely experienced barrier could potentially be construed as the most significant/challenging/relevant barrier, as this is the barrier experienced most frequently by the eleven case studies considered in the research (recognising that this is based on a case study sample of mechanisms from the wider land use delivery landscape discussed at Chapter 1 – see paragraph 1.19). Figure 6.1 illustrates this point.



Barrier code	Barrier	Barrier code	Barrier
Barrier_1	Lack of data and standardised methodologies/ techniques means that some land uses and/or land management objectives are less well understood and planned for	Barrier_11	Lack of funding/resources, buy-in and political will to deliver transformational land use/management change
Barrier_2	Modelling approaches for planning land use/management change do not adequately consider practical constraints	Barrier_12	Difficulty of putting in place strong governance arrangements for voluntary partnerships
Barrier_3	Data and projections/models for predicting natural system response to climate change may be poor, making resilience planning a challenging process	Barrier_13	Governance and delivery challenges in large and/or complex partnerships
Barrier_4	Grants and incentives for land management are not currently set-up to deliver multiple benefits in diverse contexts	Barrier_14	Challenge of broad scale (spatial extent and breadth of sectors covered) land use/management planning and delivery without a statutory remit
Barrier_5	Limited revenue options from managing peat and floodplains for regulating ecosystem services and few grants or incentives available to support land management for these services	Barrier_15	Limited opportunity to influence private land use/management objectives that deliver key public goods
Barrier_6	Difficulty/challenges/inertia in changing to more integrated land use planning and management practices	Barrier_16	Lack of empowerment within affected communities and/or willingness to engage in land use/management decision-making
Barrier_7	The challenge of land management for climate change adaptation, especially if there are no apparent climate change impacts within the management area	Barrier_17	Significant areas of primary land use within a management area can constrain options for the delivery of multiple benefits
Barrier_8	Project officers, managers etc involved in practical land management work may not have the full range of skills required or support available to deliver partnership based projects	Barrier_18	Uncertainty as to the role and strategic fit of the LUS relative to other national level policy and strategy
Barrier_9	Difficulty balancing different community land management initiative objectives	Barrier_19	Potential inconsistencies in public policy affecting land use/management
Barrier_10	Lack of awareness or understanding of the practicalities of managing land for specific objectives		

Figure 6.1 Barriers to translation of the LUS Principles – frequency of occurrence across the eleven case study land use delivery mechanisms

- 6.80 As discussed at paragraph 6.5 however, it is important to recognise that there may be some barriers that are highly significant for specific LUS Principles or in certain circumstances/contexts – i.e. they may be highly relevant for one land use delivery mechanism yet broadly irrelevant for another. The frequency of occurrence of the barriers may also be a function of how the barriers have been defined through the Research Question No.4 analysis. For example, where a barrier has been quite narrowly defined it is likely to be relevant to fewer case studies. In essence, it is important that the Scottish Government and other land use stakeholders do not discount certain barriers on the grounds that they have only been experienced by a small number of the case studies.
- 6.81 In terms of the data shown on Figure 6.1 therefore, Barrier_1 on **lack of data and standardised methodologies/techniques** and Barrier_4 on **grants and incentives not currently set up to deliver multiple benefits** were experienced most frequently by the case studies (six case studies experienced these barriers).
- 6.82 Other barriers that were experienced more frequently included Barrier_15 on **limited opportunity to influence private land use/management objectives** (five case studies) and Barrier_11 on **lack of funding/resources, buy-in and political will to deliver transformational land use change**, Barrier_13 on **governance and delivery challenges in large and/or complex partnerships** and Barrier_16 on **lack of empowerment within affected communities to engage in land use decision-making** (each of these barriers was experienced by three case studies).
- 6.83 Looking at the above, there are potentially two key themes that can be drawn from the quantitative analysis of barriers:
- The most widely experienced barriers relate to the availability of data and methodologies/techniques required to support the **planning** of more integrated land use/management and the availability of grants/incentives and revenue streams to support the **delivery** of integrated land use
 - Other barriers experienced by a number of the case studies cluster around the more social/community focussed barrier categories – **partnerships, governance and leadership** and **land use decision-making**
- 6.84 In contrast to the quantitative analysis of methods/approaches (see paragraph 5.90 and Figure 5.6), the analysis of barriers in this regard has highlighted how nearly half (nine) of the identified barriers were experienced by only one case study. In the methods/approach analysis only a fifth (four) of the techniques were used by just one case study. As indicated on Figure 6.1 there are no apparent themes in relation to the barriers that were experienced by only one case study – i.e. this situation is distributed across all seven of the identified barrier categories.

		LUS Principles									
		A Multiple benefits	B Regulation	C Primary use	D Ecosystem services	E Landscape change	F Climate change	G Vacant & derelict land	H Outdoor recreation & access	I Involving people	J Land use & the daily living link
Barrier category	Barriers identified from the eleven case study land use delivery mechanisms										
Methods & data	<i>Lack of data and standardised methodologies/ techniques means that some land uses and/or land management objectives are less well understood and planned for</i>										
	<i>Modelling approaches for planning land use/management change do not adequately consider practical constraints</i>										
	<i>Data and projections/models for predicting natural system response to climate change may be poor, making resilience planning a challenging process</i>										
Grants, incentives & revenue	<i>Grants and incentives for land management are not currently set-up to deliver multiple benefits in diverse contexts</i>										
	<i>Limited revenue options from managing peat and floodplains for regulating ecosystem services and few grants or incentives available to support land management for these services</i>										
Land manager skills, awareness & training	<i>Difficulty/challenges/inertia in changing to more integrated land use planning and management practices</i>										
	<i>The challenge of land management for climate change adaptation, especially if there are no apparent climate change impacts within the management area</i>										
	<i>Project officers, managers etc involved in practical land management work may not have the full range of skills required or support available to deliver partnership based projects</i>										
Public awareness of land use issues	<i>Difficulty balancing different community land management initiative objectives</i>										
	<i>Lack of awareness or understanding of the practicalities of managing land for specific objectives</i>										
Partnerships, governance & leadership	<i>Lack of funding/resources, buy-in and political will to deliver transformational land use/management change</i>										
	<i>Difficulty of putting in place strong governance arrangements for voluntary partnerships</i>										
	<i>Governance and delivery challenges in large and/or complex partnerships</i>										
	<i>Challenge of broad scale (spatial extent and breadth of sectors covered) land use/management planning and delivery without a statutory remit</i>										
Land use decision-making	<i>Limited opportunity to influence private land use/management objectives that deliver key public goods</i>										
	<i>Lack of empowerment within affected communities and/or willingness to engage in land use/management decision-making</i>										
Land use policy interactions & constraints	<i>Significant areas of primary land use within a management area can constrain options for the delivery of multiple benefits</i>										
	<i>Uncertainty as to the role and strategic fit of the LUS relative to other national level policy and strategy</i>										
	<i>Potential inconsistencies in public policy affecting land use/management</i>										
Key											
	Barrier strongly relevant to LUS Principle										
	Barrier less strongly relevant to LUS Principle										
	Barrier has no/little relevance to LUS Principle										

Figure 6.2 Overview of barriers identified in the research that may affect the ability of land use delivery mechanisms to translate the LUS Principles into decision-making ‘on the ground’

6.85 Although experienced less frequently by the case study sample considered in this research these barriers may still be significant (e.g. they may be relevant to multiple LUS Principles) and the Scottish Government and other land use/management stakeholders should consider Figure 6.2 in this regard. Also, unlike the methods/approaches which can be more LUS Principle specific

(see Figure 5.7), many of the barriers are highly cross-cutting in that they often have some influence on factors relating to process, management, governance etc. This is evidenced on Figure 6.2 which is cumulatively 'darker' than the corresponding method/approach figure at Figure 5.7 (i.e. more of the barriers are strongly relevant to more of the LUS Principles).

- 6.86 Figure 6.2 provides an overview of all nineteen barriers highlighting the LUS Principles they are strongly and less strongly relevant to. This Figure may also be a useful tool for the Scottish Government and other land use stakeholders to aid the consideration and prioritisation of intervention to help overcome and address the identified barriers (e.g. research and policy-development etc).

7 CONCLUSIONS, KEY FINDINGS AND LESSONS FOR WIDER APPLICATION

7.1 Research Question No.5 asks “*what are the emerging themes on how best to apply the LUS Principles to different circumstances and processes across Scotland? Are there any particular lessons for specific circumstances and different groups of decision-makers and stakeholders?*” This question has been used as a framing for this conclusions Chapter which has been structured, where relevant, around the Research Question No.5 sub-questions. In particular, the conclusions Chapter has considered:

- What are the overarching findings of the LUS Delivery Evaluation Project?
- What are the emerging themes on how best to apply the LUS Principles?
- Are there any particular lessons for specific circumstances (e.g. delivery mechanisms, contexts etc) and different groups of decision-makers and stakeholders?

7.2 As discussed elsewhere in this report (see paragraph 3.15 for example), the LUS Delivery Evaluation Project has focussed on eleven case study land use delivery mechanisms taken from the wider land use delivery ‘landscape’ in Scotland (see paragraph 1.19 and Table 1.2). As such, all findings and conclusions documented in this report are illustrative rather than representative of land use/management delivery in Scotland and should be read with this in mind.

Overarching findings of the LUS Delivery Evaluation Project

7.3 The research has identified a number of important overarching findings. These are outlined in more detail in the sub-sections below.

There is significant capacity within existing land use delivery mechanisms to deliver sustainable land use

7.4 The research has identified that the LUS Principles have been translated into decision-making ‘on the ground’, at least to a degree⁷⁵, in the majority (99 out of 110) of instances⁷⁶ (see paragraph 3.16 and Figures 3.1 and 3.4). As such, on the basis of the eleven case study land use delivery mechanisms considered, **this research has found that there may already be significant capacity to deliver sustainable land use, as per the requirements of the LUS, within Scotland’s existing land use delivery mechanism landscape.**

7.5 Crucially, this finding recognises that within the scope of the project, none of the case studies reached a decision-making stage that would result in practical land management action with a resultant impact in the landscape. Further information to qualify the scope of this finding in terms of how decision-making ‘on the ground’ has been construed for the purposes of this

⁷⁵ Further information on the Research Question No.1 evaluation process, criteria and four point scale used in the assessment is provided at paragraph 3.7

⁷⁶ There are ten LUS Principles and eleven case studies equating to 110 possible ‘instances’ of LUS Principle translation (see Figure 3.4 for a visual representation of this issue)

project can be found at paragraph 2.28 and Table 2.4. Also, it is crucial to stress that this finding is illustrative of land use delivery in Scotland (as opposed to definitive) as the research findings are based on a non-statistically significant sample of case study land use delivery mechanisms.

- 7.6 Given the diverse nature of the case studies considered in the research (see Chapter 4 and Table 4.1 in particular), this finding suggests that the LUS Principles are relevant and can be applied in many different contexts, at different scales and across different sectors.
- 7.7 Although this is an important and policy relevant finding, it is crucial to stress that there is still 'room for improvement' in terms of the ability of existing land use delivery mechanisms to translate the LUS Principles. In particular, although the LUS Principles were translated to varying degrees in 99 of 110 possible instances, Principles were only translated fully in 57 instances.
- 7.8 Also, given the evaluation's focus on policy and process level decision-making, although the findings indicate relatively strong translation of the LUS Principles across the case studies, there is a concern that this strong translation could be 'diluted' as subsequent decisions move further towards practical land management actions that 'break ground' and cause a tangible impact in the landscape (see Figure 2.4). A case in point might be planning committee decisions that are not fully taken in the spirit of Local Development Plan policy (e.g. as a result of pressure to create growth and jobs) or forestry grant decisions that are not fully in accordance with the relevant Forestry and Woodland Strategy (e.g. as a result of pressure to meet afforestation targets).

Translation of some LUS Principles is more comprehensive than others

- 7.9 Perhaps unsurprisingly, the degree to which the LUS Principles have been translated into decision-making 'on the ground' varies across the ten Principles. In particular, the translation of Principle A on **multiple benefits**, C on **primary use**, D on **ecosystem services**, E on **landscape change**, I on **involving people** and J on **land use and the daily living link** was identified as having been more comprehensive across the eleven case studies.
- 7.10 Conversely, translation of Principle B on **regulation**, F on **climate change**, G on **vacant and derelict land** and H on **outdoor recreation and access** has been more mixed. This is perhaps a particular issue/surprise for LUS Principle F on **climate change** given the provenance of the LUS within the Climate Change (Scotland) Act 2009. The key reason for the less comprehensive translation of LUS Principle F lies in the Principle's dual focus on climate change mitigation **and** adaptation i.e. the general premise of the policy is that land use/management should be able to contribute to both agendas (a notion that is often borne out in practice and the literature also). This dual focus was reflected in the evaluation criteria (see Appendix 1) and therefore in the Research Question No.1 evaluation also (see Chapter 3).

The suite of ten LUS Principles is internally compatible and most Principles are relevant to land use delivery in most instances

- 7.11 On the basis of the eleven case study land use delivery mechanisms considered in the research, LUS Principles were considered as ‘not relevant’ in only a small handful of instances⁷⁷ (7 out of 110). This relates specifically to LUS Principle B on **regulation** and Principle G on **vacant and derelict land** (see paragraphs 3.7 and 3.16). Both of these Principles are felt to be highly context specific and may not be relevant to land use/management in a given area or for a given land use delivery mechanism.
- 7.12 Similarly, the research has identified how the ten LUS Principles generally work well together as a suite i.e. there are no particular areas of internal conflict or inconsistency between the Principles. This is evidenced by the fact that the Principles have been translated at least ‘to a degree’ in the vast majority of instances (see Figure 3.4). Key areas of inconsistency or incompatibility might have been evidenced, for example, through the observation of distinct conflicting themes in LUS Principle translation (e.g. a given Principle **not** being translated by the majority of case studies while a related or potentially conflicting Principle **was** translated). In reality, only two Principles displayed any sort of trend in this regard (see paragraph 7.10) and this can largely be attributed to context/situational factors.

Translation of LUS Principles is primarily implicit

- 7.13 For the most part, the consideration of LUS Principles has been implicit rather than explicit i.e. the LUS Principles are not discussed explicitly and their consideration by the case studies has been teased out using the evaluation criteria at Appendix 1 (see paragraph 3.17 also). This was found to be the case even where the case study ‘on the ground’ decision-making juncture took place after the adoption of the LUS (March 2011). In effect, it is hard to separate out the direct influence of the LUS over and above existing practice.
- 7.14 The corollary of this of course is that there is already a wealth of good-practice in sustainable land use/management in Scotland from which to build upon. The LUS Principles provide a useful overall framing for this good-practice and could be used as a backstop or baseline to justify and develop innovative practices (e.g. using the LUS Principles as a guide/framework for relevant land management grant applications – see paragraph 5.80).

There are many examples of useful methods and approaches that can be used to help translate the LUS Principles into decision-making ‘on the ground’

- 7.15 As is evident from Chapter 5 there are many examples from the case studies of existing methods and approaches that can help land use/management stakeholders and practitioners translate the LUS Principles into decision-making ‘on the ground’. These include specific methods under the following seven categories: **spatial analysis** (see paragraph 5.8 onwards),

⁷⁷ There are ten LUS Principles and eleven case studies equating to 110 possible ‘instances’ of LUS Principle translation (see Figure 3.4 for a visual representation of this issue)

environmental assessment (see paragraph 5.18 onwards), **ecosystem services** (see paragraph 5.32 onwards), **partnerships and governance** (see paragraph 5.46 onwards), **engagement and awareness-raising** (see paragraph 5.52 onwards), **planning and design** (see paragraph 5.64 onwards) and **grants and incentives** (see paragraph 5.75 onwards),

- 7.16 Within these categories there are also key examples of emerging innovative practice that could potentially be developed into more mainstream approaches⁷⁸. These include, for example, specific innovations in spatial analysis (e.g. use of fine grained constraints data to exploit land use/management opportunities in highly heterogeneous landscapes – see paragraph 5.14), the use of ecosystem service assessments to better understand land use values (where ‘value’ can be monetary or nominal – see paragraph 5.34), the use of cross-boundary partnership working at the ecosystem or landscape scale (see paragraph 5.48) and using the LUS Principles themselves as a guide or framework for relevant grant applications (see paragraph 5.80).

There are many examples of potential barriers to the translation of LUS Principles

- 7.17 Whilst there are many examples of useful methods and approaches that can support translation of the LUS Principles, there were also a number of key barriers identified from the case studies. These include specific barriers under the following seven categories: **methods and data** (see paragraph 6.8 onwards), **grants, incentives and revenue** (see paragraph 6.17 onwards), **land manager skills, awareness and training** (see paragraph 6.25 onwards), **public awareness of land use issues** (see paragraph 6.36 onwards), **partnerships, governance and leadership** (see paragraph 6.42 onwards), **land use decision-making** (see paragraph 6.58 onwards) and **land use policy interactions and constraints** (see paragraph 6.65 onwards).
- 7.18 Within the barriers data, two potential key themes were identified:
- The most widely experienced barriers relate to the availability of data and methodologies/techniques required to support the **planning** of more integrated land use/management and the availability of grants/incentives and revenue streams to support the **delivery** of integrated land use
 - Other barriers experienced by a number of the case studies cluster around the more social/community focussed barrier categories – **partnerships, governance and leadership** and **land use decision-making**

Emerging themes on how best to apply the LUS Principles

- 7.19 As well as the more general overarching findings described above at paragraph 7.3 onwards, the research also identified several more specific themes in relation to how best to apply the LUS Principles.

⁷⁸ The research identified potential reasons why a particular method/approach may be attractive for use by land use/management practitioners and stakeholders e.g. it has been proven to work, it is easy to use etc (see paragraph 5.86)

Scale and tiering

- 7.20 Whilst the ten LUS Principles (and the LUS itself) are inherently strategic, they can be applied at different scales however consideration may need to be given as to how the Principles are applied at different scales (e.g. national, regional, local) and between related/tiered land use delivery mechanisms operating at different scales (e.g. the various plans and policies that make up the statutory planning system in Scotland).
- 7.21 The notion of a regional scale land use delivery mechanism is something that is currently being considered by the Scottish Government through the Regional Land Use Framework (LUF) Pilots. This sort of mechanism could potentially provide a useful policy 'stepping stone' between the national level LUS and the delivery of practical land management 'on the ground'.
- 7.22 This sort of regional scale approach was evidenced in several of the case studies operating at this scale (LLTNP Partnership Plan, CSGN and Biosphere). This included examples of how planning at this scale can usefully articulate the LUS Principles (implicitly at least) in greater detail through the use of local priorities, targets, objectives etc. This was supported by the undertaking of technical assessments that become increasingly feasible, relevant and practical at this scale (e.g. assessment of risks and opportunities for climate change adaptation planning, whole catchment planning, ecosystem service assessments etc).

Use of methods and approaches

- 7.23 The research has highlighted how there is no one perfect method or approach to support land use/management planning and delivery that can be used in all circumstances or for all ten LUS Principle. For example, whilst the use of SEA can potentially support the translation of all ten Principles (see Figure 5.7) it is not an appropriate method/tool for use in project level decision-making.
- 7.24 Rather, practitioners should use a suite of methods/approaches relevant to their particular land use/management context or problem. In this regard, Figure 5.7 links the twenty methods/approaches to the ten LUS Principles in terms of their relevance and potential utility helping to translate the Principles. The methods/approaches identified through this research may also have utility helping to overcome the barriers to LUS Principle translation identified at Chapter 6. Specific opportunities in this regard are highlighted, where relevant, throughout the discussion in Chapter 6.
- 7.25 There will undoubtedly be a range of useful methods/approaches that were not identified from the case studies considered in this research (e.g. from other aspects of land use/management practice in Scotland, relevant literature, relevant land use/management practice elsewhere in Europe etc). In this regard, the methods/approaches identified through this research can be used as an initial basis for the development of land use delivery methods though this should be supplemented through wider research etc.

Particular lessons for specific circumstances and stakeholders

- 7.26 Based on the findings of the research it has been possible to identify several particular lessons of relevance to specific stakeholders. These are as follows:

Scottish Government

- 7.27 There is an obligation to enhance the delivery and deliverability of the LUS by careful integration of the LUS Principles across all relevant Scottish Government policies and initiatives that influence land use and land management. This concept is already enshrined within the LUS: *“In order to achieve the full benefits that can be secured from sustainable land use the Government will ensure that its own policies are aligned with the Strategy’s Objectives and Principles”* (Scottish Government, 2011a p.5). Key policies in this regard include the Scotland Rural Development Programme (SRDP), the Scottish Climate Change Adaptation Programme, the statutory planning system and the National Planning Framework (NPF) and Scottish Planning Policy (SPP) in particular, River Basin Management Plans (RBMPs) and Flood Risk Management Strategies.
- 7.28 As outlined in detail at Chapter 5 and in summary at paragraphs 7.4, 7.13 and 7.14, there is a wealth of good-practice sustainable land use and land management practice in Scotland. There may be scope for this good-practice to be shared more widely e.g. through specific training events and through the Scottish Government’s annual Land Use Strategy Stakeholder Event etc.
- 7.29 As outlined in Chapter 4 and at paragraph 7.19, regional scale land use/management planning can provide a useful stepping stone between the national level LUS and practical land management ‘on the ground’ (e.g. at the farm level). Depending on the findings of the Regional LUF Pilots there may be scope to roll out this sort of approach more widely in Scotland, especially where there is no existing mechanism in place (i.e. the LLTNP, CSGN and Biosphere case studies are already providing regional scale land use planning in different forms).

Other government agencies

- 7.30 The use of more novel tools to support land use/management planning was evidenced by a number of the case studies – e.g. the use of ecosystem service assessment by the Biosphere case study. Crucially however these methods are often linked to specific barriers – e.g. in the case of ecosystem service assessment there was a concern that without standardised methodologies, land owners would not accept ecosystem service values as an input to land use/management decision-making. There are also issues concerning access to government agency owned or managed datasets that can be required to support the use of specific tools and approaches (e.g. spatial datasets for use in ecosystem service assessment/mapping). In this regard, there may be scope for other relevant government agencies (e.g. SEPA, SNH, FCS) to develop training, capacity building and guidance and to extend the availability of datasets to support the standardisation and adoption

of methods and approaches. One case study identified the UK Woodland Carbon Code as an existing example of good-practice in this regard.

Local authorities and planners

- 7.31 Evidence from this research and wider anecdotal evidence suggests that the LUS is a bit of an ‘unknown quantity’ to some land use stakeholders in Scotland (see paragraph 6.70). This was felt to be particularly the case for those working in more urban local authorities, planners working primarily within the Town and Country Planning regime and elected members of local councils. Full implementation of the LUS across Scotland will require all land use stakeholders to be aware of their role in delivery.

Estate managers and landowners

- 7.32 Private landowners are increasingly required to manage their land for the delivery of public goods (e.g. to qualify for Direct Payments under Pillar I of the CAP). Furthermore, the Scottish Government expect that the LUS and its ten Principles for sustainable land use will be used to guide decisions about the future use of land, including land in private ownership (Scottish Government, 2011a). Whilst there is a wealth of good-practice in sustainable land use/management in Scotland (see paragraph 7.27 for example), there is still a requirement for training and capacity building to support the move towards more integrated land use/management planning across the private as well as public estate. There is also a need to strike an appropriate balance between the use of regulation and grants/incentives.

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