Coordinating policy instruments that influence soil, water, and biodiversity in Scotland: rationales, needs and challenges

Report of a workshop held at Edinburgh Centre for Carbon Innovation, 23rd May 2017

**Kirsty Blackstock, Paula Novo,
Kerry Waylen, Jessica Maxwell,
Alba Juarez-Bourke
June 2017**

Kirsty.Blackstock@hutton.ac.uk

The James Hutton Institute

SEFARI LEADING IDEAS FOR BETTER LIVES

escom Ecosystem Services Community Scotland

Coordinating policy instruments that influence soil, water, and biodiversity in Scotland: rationales, needs and challenges

Summary

This report summarises the discussions within a workshop held to discuss the rationale, needs and challenges facing attempts to implement biodiversity policy instruments in coordination with other environmental goals and policies. The workshop provided an opportunity to discuss where and how policy coordination might be needed, to inform future research about the most appropriate ways to achieve such coordination. This summary interprets the material to give a concise overview of the main messages.

Whilst most participants were positive about the direction of travel, our 'living graph' activities suggests that there is still progress to be made in terms of implementing biodiversity policy instruments; and in integrating instruments protecting soil, water and biodiversity in Scotland. Participants were slightly more positive about the progress on biodiversity than integration, which makes sense given that integration is a much newer goal for Scotland.

There were many reasons given for being positive such as having strong high-level vision for biodiversity and a suite of instruments available for implementation, both of which are improvements on the past. However, there are still problems with implementing biodiversity policies, particularly around development planning, and a sense that biodiversity is not viewed as important by other sectors or the public. Finally, some of the policy instruments, e.g. cost-benefit analysis, or seeking a return to past reference conditions, can prevent taking a more systemic or adaptive approach to conserving biodiversity.

Likewise, there are recent international and national policies that promote integration but a gap remains between rhetoric and reality. It is difficult to tackle multiple issues at once, and often it is easier to focus on a single priority, e.g. carbon sequestration, even though this may inadvertently reduce the focus on tackling other issues and delivering other benefits. Integration requires working on multiple scales: a consistent and coherent framework at the national level is necessary, but learning and sharing ideas about how to do it on the ground, working with local people in democratic processes, is also essential.

Therefore, there seem to be common issues around how to win people's 'hearts and minds', for example: the concept of natural capital could be one useful way to change individual thinking about the importance of nature, but has yet to change the way individuals, society and businesses behave. There were also discussions about how to set objectives and measure success, and who should be involved in these processes. However, unlike biodiversity, the discussions around integration were clear about the importance of understanding *whether* integration is needed and reaching societal consensus on what trade-offs to make. Finally, understanding land management rights and responsibilities seems to be fundamental to managing biodiversity and integrating delivery of multiple benefits from soil, water and biodiversity.

Two interlinked research projects from the ongoing Scottish Government Strategic Research Programme (2016-21) were presented. Whilst they slightly differed in scope, focus and method, the projects both identified the growth of 'hybrid approaches' combining regulations, incentives and/or advice and the lack of clear and substantive guidance on how to achieve multiple benefits using these instruments. Participants provided useful feedback on the next phase of the research as well as information about associated activities taking place. The final discussion reiterated the importance of understanding what we want integration to achieve, and the inherently political nature of the choices that are required; as well as further discussion about whether to focus on management activity or ecological outcomes.

Overall, the workshop confirmed that there is interest in improving the implementation of biodiversity instruments, overcoming challenges to integration and optimism about what can be achieved in the future. Further research is planned in 2018-19 to look at how these challenges could be overcome, in order to feed into future policy design in the next few years, particularly any opportunities arising from post-BREXIT reviews of environmental and agri-environmental instruments.

1. Introduction: background to this workshop

This workshop brought together cross-sectoral stakeholders in order to discuss the rationale, needs, and challenges for implementing and coordinating policies on biodiversity, soil, and water in Scotland. It aimed to provide an opportunity to discuss where and how policy coordination might be needed, and will help inform future research in Scottish Government's Strategic Research Programme about the most appropriate ways to achieve it. It was advertised as being of interest to anyone connected with the governance of soil, water, and biodiversity in Scotland and especially to those seeking to coordinate or integrate the delivery of different policy goals:

As part of the Scottish Government's Strategic Research Programme, researchers at The James Hutton Institute are analysing how a variety of environmental policy instruments shape the management of soil, water, and biodiversity in Scotland. They aim to understand Scotland's complex policy and institutional landscape and how these policy instruments can support the delivery of multiple benefits. This workshop was therefore organised in connection with these projects.

The workshop was held under Chatham House rules so the participants have not been named. Eleven participants attended, who worked for Scottish Government, SEPA, SNH, local authorities, academia and NGOs.

2. 'Living Graph' – views on biodiversity policy instruments and integration

Participants were asked to order themselves alongside one side of the room according to (i) their (dis)satisfaction with current biodiversity policy instruments and (ii) the degree to which they felt more integration of instruments was required. In both cases, participants' positions indicated that they felt some change was needed in instruments or their integration. The paragraphs below provide the exact questions and summary how individual's explained their choice of positions. Unless otherwise stated, the material reflects views expressed by one or more participant.

To what degree are you satisfied with the way that current Scottish biodiversity policy instruments are working?

Participants' positions ranged from a couple of people who were in the middle or slightly satisfied, with the remainder dispersed up to dissatisfied. There were also a couple of people in a separate 'island' who did not position themselves on the line because they felt their expertise did not allow them to directly answer this question.

Participants in the middle were 'hopeful' as they perceived policy as 'sending the right signals' and providing a mix of instruments that was better than in the past. However, they felt progress was still needed so that all sectors and actors supported and endorsed their principles. This was sometimes described as needing to make progress in 'implementation' or 'delivery'.

Those who were less satisfied also said that high-level biodiversity policies and strategies provided the right vision, but identified that many problems arise from different sectors and policy areas. One argued that biodiversity policy and goals can be seen as a 'backwater', therefore strategies such as the Scottish Biodiversity Strategy (SBS) are isolated. Agricultural policy was noted by several as particularly problematic. There was a view that Agri-Environment Schemes (AES) are a 'sticking plaster' that have minor influence overall on biodiversity, whilst other areas of agricultural policy could better enforce rules designed to protect the environment (e.g. cross-compliance) and may even provide perverse incentives that act against biodiversity goals. As some participants argued, such signals can reinforce the pre-existing lack of interest by some sectors, who thus give only tokenistic support to biodiversity goals. Planners can help achieve biodiversity goals, and their support is already getting stronger. Developers were identified by some as a specific group who need to better support these goals, but altering wider land use patterns are actually more important than focusing just on urban development. So a participant argued that these problems may explain why, despite many instruments, environmental trends still indicate decline. Another added that much of society still does not see environment as being the basis of our lives and livelihoods. Some but not

all participants suggested Scottish policy makers are missing mechanisms to match overall visions for sustainability and biodiversity conservation; they need more information to understand how to facilitate political and societal changes; and another suggestion was to re-examine existing 'arbitrary' baselines that set environmental standards, and reconsider procedures such as cost-benefit analysis that shape decision-making.

To what degree do you believe we need more integration of policies affecting biodiversity, soil and water?

Participants were much more strongly bunched towards one end of the line; with nearly all taking the view that more policy integration was needed. The exception was two participants who formed an 'island': one person was not convinced that we need more integration – as there are already a lot of mechanisms – so it may be a case of more resources to integrate what we already have, but this should be informed by a better understanding of what we have now and why it doesn't always achieve all our goals. The other person did not feel able to judge.

There is high-level support for integration – especially in the Land Use Strategy, reinforced by commitment to the Sustainable Development Goals – but more work is needed to reflect this in practice. A number of participants argued there is a gap between rhetoric and real relationships with nature and management practices. Some felt it will likely take a very long time for high-level commitments to affect any changes on the ground – perhaps this is inevitable but more could be done to speed up this process.

Some specific examples were provided to illustrate how to provide levers or prompts for integration – e.g. climate change targets for forestry – but it is not clear how to scale-up these lessons and examples. Other examples indicate where integration has not yet happened – e.g. in strategies for agricultural education – and suggest targets for improvement. For example, River Basin Management Plans aim to improve water quality but often only encompass management of water courses, not soil management even though that leads to diffuse pollution. The instruments for soil management are generally weak, so soil is not comprehensively managed as an asset or system. However, it is difficult to build consideration of several issues at once – for example, when considering soil, a growing emphasis on the need to improve carbon sequestration has often come at the expense of other issues.

Several thought that research was needed to examine why integration doesn't happen more often, even though so many people agree in principle with taking a holistic approach. This research should examine the political processes and underlying reasons why integration does not occur, possibly taking a transdisciplinary approach. Where there are already examples of integration, it would be useful to understand how to share and embed the lessons across levels. It is often not clear what is the best scale to bring things together – working at a whole-of-Scotland level may not be appropriate. Ultimately, society as a whole needs to consider nature in decision-making: this will entail working with people whose behaviour we are seeking to change; and also strengthening local democracy to ensure all are involved in priority-setting and decision-making. However, some participants thought that land managers often say that policy is incoherent or confusing, so before working with such groups, it is important to first understand more about those policy interactions.

3. Summary of small group discussions

How can we better achieve delivery of biodiversity policy goals? What might be the challenges or constraints to doing so?

The discussion started by defining what is meant by biodiversity policy goals and whether this refers to the Scottish Biodiversity Strategy (SBS) or to a broader definition. The group agreed that these goals should not be limited to SBS but include other policies. In general, many conservation instruments focus on priorities but there are challenges with this approach in practice.

Participants indicated that there are good policies but in many cases these do not follow through. They also stressed the importance of people's relationship to biodiversity and how this relationship frames mind sets. Policy discourses and how we talk and frame nature are important for engaging people in conservation.

The group argued that transformational change is needed for the delivery of biodiversity goals but this requires changing people's 'hearts & minds', behaviours and social institutions. For example, one of the participants indicated that the natural capital concept has managed to changed minds, but not social institutions yet. The group recognised that these processes take time.

There was a suggestion to move back to an objective-led approach for biodiversity with stakeholders involved in the objectives' definition. However some of the participants indicated that this approach had failed in the past and that a more flexible and loose approach on the ground seems more promising. Trust and associated penalties for non-compliers would be key for the effective implementation of this approach. In addition, it would require addressing the challenges associated to not achieving the objectives and to scrutiny and audit of these results. Finally, some participants raised some points in relation to the scale and integration of the different goals.

How can we better integrate delivery of policy goals for biodiversity, soil and water? What are the challenges or constraints to doing so?
This wide-ranging discussion built on the points already raised during the two 'living timeline' exercises.

There was a strong view that before integration could begin to improve; we needed to have a better definition and understanding of what is currently 'un-integrated'. This entails using information about conflicts and trade-offs for explicit consideration and debate on what our societal goals are, and what choices we wish to how to handle conflicts and trade-offs in environmental management (e.g. in the mix of ecosystem services delivered). The environmental sector should take the lead in doing so, to help shape the debate and challenge existing 'default' ways of working: doing so is particularly important for informing a post-Brexit agricultural policy.

Once a clearer problem-definition was achieved through this work, then it was expected that change to enable integration would be required across scales, from the national to regional, since challenges (i.e. silo thinking) can occur across levels. As this happens, the use or adjustment of existing tools such as Strategic Environmental Assessment (SEA) or Environmental Impact Assessment (EIA), should be considered to help appraise how current and potential consequences of managing trade-offs. There are also specific examples – e.g. of changing rules on farm tenancy agreements – that can provide incentives for individuals to invest more in the long-term health of the natural assets that they depend on.

The challenges to improving integration are often rooted in the structure of our economy, reinforced by unexamined assumptions about rights and responsibilities in land management. Firstly, land use and nature management is generally driven by provide things that generate private profit in the short-tem, even if those things don't match society's priorities or needs in the long-term. Secondly, the priorities for what is wanted from nature go unexamined and unquestioned (although examples such as the Rural Land Use Pilots show it is possible to do so). This reinforces the tendency for vested interests to resist any change in how natural assets are managed. It is important to examine and understand instruments and institutions that are not purposively designed to manage for or influence biodiversity, since they affect ability or incentives to shape land use and nature management (as a specific example, tenant farmers in Scotland do not generally benefit from planting trees on their land). Tackling all these challenges also depends on tackling silo-thinking across sectors, which leads different environmental goals to be considered in isolation, or not at all.

4. Summary of ongoing research
Having allowed an open debate about the issues, Paula Novo and Kerry Waylen provided an overview of two ongoing and related research projects which explore these challenges. In both cases, the research is ongoing

so the results were interim, to be further developed on the basis on interviews. Slides presented on these projects are available from http://www.hutton.ac.uk/research/projects/analysing-how-policy-instruments-shape-soil-water-and-biodiversity. The authors' summary of themes and ideas included:

- Positive vision and high level policies but issues with implementation
- Need for a focus on delivery on the ground
- Need to improve how to join up delivery across scales and learn from good practice
- Need to work across all sectors not just usual suspects
- Need to increase public awareness and individual sustainable behaviours
- Need to shift business focus from short-term profit to long term sustainability
- Institutional and political change
- Need for a new process of setting goals that reflect societal needs

 These matched many of the issues emerging from the research. This convergence with participants' views helped to confirm the research was salient and had identified the main issues.

Research on biodiversity governance mechanisms (in '1.3.4')
The aim of this research is to provide an overview of biodiversity governance mechanisms that are being used in Scotland and elsewhere. Although the primary focus of this review is Scotland, this review also includes alternative approaches that are not currently used but that could help Scotland meet its biodiversity targets. For this purpose, we have developed a database with different policy instruments that have been applied in Scotland and elsewhere with the purpose of improving biodiversity. The database records the type of policy instruments (e.g. regulation and moral suasion, market-based, non-market based, etc.), level of application (e.g. Scotland, UK, Europe, etc.), advantages, disadvantages and role of stakeholders, among others. Examples of different governance mechanisms have been gathered through desk-based work and stakeholder consultation workshops. As a result of this, more than 100 different projects have been recorded with experiences from Scotland falling mainly under the regulations and voluntary efforts categories. The results also highlight the hybrid nature of most policy instruments and the challenges to balance internal and external motivations for biodiversity conservation.

Research on aligning policy instruments (in '1.4.2')
The aim of this research is to understand if and how interaction occurs between instruments designed to manage natural resources for biodiversity, soil and water policy. The work began with an initial review of instruments designed to achieve policy goals, and has subsequently focused on an in-depth analysis of 10 instruments. These 10 instruments were selected to illustrate different 'types' of instrument (rules, incentives, guidance for voluntary action, plus hybrid that are not easily categorised) as well as different types of natural asset (soil, water and biodiversity). Publicly available documents have been reviewed to answer questions derived from theory on environmental governance, environmental policy integration, and cooperative natural resource management. This is an innovative method as although there are many calls for integration in the academic literature, little existing research provides any method to study or enable integration, nor empirical studies of integration in practice. Early results from this research emphasise that it is difficult to neatly categorise policy instruments (similar to 1.3.4), and also that it is difficult to detect any positive or negative interactions of instruments, since they generally make no or only tokenistic references to other policy goals. We also discern that biodiversity, soil and water are each associated with different mixes of instruments – i.e. protecting soil relies mainly on guidance and voluntary action, whereas biodiversity is primarily associated with regulation and rules for designated areas.

Similarities and differences between these projects
Both projects clearly have overlapping questions and topics, so the researchers are liaising with each to share and compare findings. Both projects focus on policy instruments: i.e., not the policies that specify visions and goals, but the mechanisms and process that are created to achieve those goals.

However, it is important to note that there are differences. Firstly, 1.3.4 has a narrower focus on mechanisms that support biodiversity governance, whereas 1.4.2 also considers soil and water and the policies that shape these. Because of its wider scope, 1.4.2 considers a narrower range of instruments, as it focuses solely on understanding instruments arising from public policy, whereas 1.3.4 also considers instruments and mechanisms arising from the private and third sectors. 1.4.2 focuses solely on instruments already found in Scotland, whereas 1.3.4 also considers some instruments found internationally. Lastly, 1.3.4 and 1.4.2 have slightly different methods: to date 1.3.4 has made an exhaustive list of instruments, whereas 1.4.2 has focused on a more in-depth analysis of a smaller set of instruments. However, both plan a similar combination of review and interviews to better understand the process of designing and delivering instruments.

5. Feedback from participants

Discussion fell into three different themes:

- Implementing Integration
- Taking forward our research
- Other activities

Implementing integration

Participants agreed that there is a difference in how different natural assets are managed, with regulation being easier to implement when short of time, but less prescriptive approaches can help integration. In a climate of declining resources, the institutional response to this is typically to withdraw to 'core' purposes and statutory duties. In some cases, the response to smaller budgets is to collaborate and integrate to make scarce resources go further: but this goes against simple measures of success and impact.

There is a need to better define the 'problem' and to recognise there may be no easy answers. Integration raises the idea of choice and consequences, including questions of who benefits from the environment. This brings us into the idea of 'public goods for public money' but we need to better understand and define what 'public' goods are. Therefore integration is about politics.

There was a discussion of how or if to change policy instruments. It would be good to have a duty on Scottish Ministers to consider 'sustainable' agriculture as well as sustainable forestry and woodland. There was a debate around whether agri-environment payments should be for outcomes or actions, which is further complicated by the mismatches between our administrative timescales and timescales of natural processes (e.g. a pond can be installed in a day but may take decades to develop a functioning ecosystem).

Taking forward our research

Participants were supportive of the research questions and the plans to move into a further data collection phase. However, we will have to undertake a stakeholder analysis and ensure we cover a range of individuals who may have different experiences, and perspectives, on the same instrument and on what could be judged as 'success'. At the moment the focus is on the national (Scottish) scale but we are aware of the importance of local differences and the need to understand implementation in a range of different catchments/landscapes.

We were challenged to remember the impact of climate change – whilst we are not directly looking at how climate change integrates with these other policy instruments, it is part of the wider context and influences how instruments work on the ground.

Other activities

One participant suggested a competition to fund rural and urban land managers to illustrate how they are delivering integration on the ground already.

CEH will be running a series of workshops to identify 'post-Brexit' scientific challenges in the autumn.

Various organisations, e.g. Scottish Wildlife Trust, Scottish Environment Link and Scottish Land and Estates have published, or are about to publish, their vision for the rural environment, identifying opportunities as well as challenges in leaving the EU.

The Scottish Government is also working at joining up farming, forestry and agricultural policies for shared national outcomes.

6. Feedback received via workshop evaluation forms

All participants completed a feedback form, in which they indicated that they regarded the workshop as useful: on a scale of 1-4, where 1 is *not useful at all* and 4 is *very useful*, the average score reported was 3. Participants were also asked to rate the workshop's facilitation, format and quality of interactions on a scale on 1-4, where 1 is *very poor* and 4 is *very good*: these aspects were scored with averages 3.54, 3.36 and 3.36 respectively.

The forms also provided space for participants to write about what they learnt during the workshop. The main topics participants mentioned were: what policy integration means, its complexity, and the need for more policy integration, as well as learning about the research carried out at the James Hutton Institute.

Participants were also able to comment on the aspects of the workshop that were relevant to their organisations. Three people answered that it was all relevant. Other responses concerned the types of instruments, the integration of policies across natural assets, the scale of policy instruments, their usefulness for informing local planning instruments and policies, and the meaning of integration.

Participants also made helpful suggestions regarding who might be useful to interview in the next stage of the research.

7. Next Steps

The workshop helped inform and confirm the researchers' direction of research, whilst also enabling the researchers to share and discuss some initial findings. Overall, there were some clear messages about the need to support and improve the delivery of biodiversity policy instruments; to consider in more depth where policy integration could be beneficial; and how best to achieve more integration on the ground. The research to date has highlighted the number of 'hybrid' instruments (mixing incentives, regulation, advice and/or voluntary action) in Scotland, which is interesting as this might signal the flexibility that participants identified as helping encourage integration. The research also highlighted the fact that the requirement for integration is not strongly developed in policy documents nor did we find much policy guidance on how to integrate management of natural assets. Some of the issues raised by participants e.g. problems with delivery; working across scales and working across sectors, were already clear in the research findings but others, particularly the emphasis on public awareness and societal choices were more surprising.

Given the participants confirmed that the research assumptions regarding the need for, and challenges to, policy integration and policy implementation, both research projects are moving into a further data collection stage. This involves using interviews with stakeholders to improve our understanding of how policy instruments are designed, funded and implemented in Scotland. The interviews will take place over the summer, with further data analysis in the autumn and winter. In both cases, a written output summarising the results from the research will be available later in the year (September 2017 for 1.3.4 and March 2018 for 1.4.2).

So far the focus has been on identifying the challenges and trying to understand them. However, the overall vision for this research from 2018- 2021 is to move towards identifying possible solutions and innovative thinking to help consolidate both biodiversity and integrated natural asset governance at a strategic level; but also the design of policy instruments themselves. Many of the issues raised in the workshop suggest the need for institutional, societal and political change. Research projects cannot achieve this in isolation.

However, it is hoped that improved understanding of the challenges, and suggestions for solutions, can assist policy makers when they are reviewing existing instruments or developing new ones; when they are developing policy guidance and when they are scrutinising delivery by other bodies. In particular, we hope that insights may be useful when designing agri-environmental schemes post 2021, when developing the 3rd River Basin Management Plans, and designing the Biodiversity policy post 2020. This will require working with the main stakeholders in Scottish Government, Scottish Agencies, agricultural and environmental membership groups, to contextualise the research and ensure the findings are included in the discussions about future policy design and implementation. Wider dissemination can also play a part in raising awareness of the importance of natural capital and building societal support for policies designed to ensure the environment remains an asset for the Scotland in the future.

Acknowledgements

Annex I: Workshop Agenda

Agenda for Coordinating Policy Instruments that Influence Soil, Water and Biodiversity in Scotland: rationale, needs and challenges

23rd May 2017

Training and Skills Room,
Edinburgh Centre for Carbon and Innovation
Old School Yard

09:45	Registration Refreshments	
10:00	Welcome and Housekeeping Rationale for research and workshop	Kirsty Blackstock
10:15	Icebreaker and break out group discussions	Paula Novo and Kerry Waylen to facilitate
10:50	Feedback from break out groups	All
11:00	Presentation on *Biodiversity governance mechanisms*	Paula Novo
11:15	Presentation on *Aligning Existing Policy Instruments*	Kerry Waylen
11:30	Discussion of presentations and issues raised	Kirsty Blackstock
11:50	Next Steps and evaluation sheets	Kirsty Blackstock
12:00	Formal workshop ends Lunch	

The James Hutton Institute   escom Ecosystem Services Community Scotland   SEFARI LEADING IDEAS FOR BETTER LIVES   Scottish Government Riaghaltas na h-Alba gov.scot