

Aligning Policy Instruments for Biodiversity, Soil and Water

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“Integrated and Sustainable Management of Natural Assets”**



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¹ This report is also available at: <http://www.hutton.ac.uk/research/projects/analysing-how-policy-instruments-shape-soil-water-and-biodiversity>

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List of acronyms

AECS	Agri-Environment Climate Scheme
BAFLB	Buffer Areas for Fens and Lowland Bogs
CAP	Common Agricultural Policy
CAR	Water Environment (Controlled Activities) (Scotland) Regulations 2005 and 2011
CSGN	Central Scotland Green Network
ECAF	Environmental Co-operation Action Fund
EIA	Environmental Impact Assessment
FFBC	Farming for a Better Climate
GAEC	Cross Compliance via Good Agricultural and Environmental Conditions
GBR	General Binding Rule
KTIF	Knowledge Transfer and Innovation Fund
LEADER	Support programme belonging to SRDP 2014-20
LFASS	Less Favoured Areas Support Scheme
NHR	Conservation (Natural Habitats, & c.) Regulations 1994 (as amended in Scotland) Natural Heritage Regulations
NFM	Natural Flood Management
PAN51	Planning Advice Note 51 – Planning, Environmental Protection and Regulation
PEPFAA code	Prevention of Environmental Pollution from Agricultural Activity
RESAS	Rural and Environmental Science and Analytical Services Division (Scottish Government)
RPID	Rural Payments and Inspections Division
SAC	Scottish Agricultural College
SEFARI	Scottish Environment, Food and Agriculture Research Institutes
SEG	Soil Engagement Group
SEPA	Scottish Environmental Protection Agency
SG	Scottish Government
SMR	Statutory Management Requirements
SNH	Scottish Natural Heritage
SRDP	Scottish Rural Development Programme
WEF	Water Environment Fund
WFD	Water Framework Directive

1. Executive Summary

Purpose of the Research

We explored the governance and management of Scotland's natural assets of biodiversity, soil and water. These assets provide us with multiple benefits that are essential to our social and economic development; however, they are sometimes in poor condition or at risk of degradation. Several policies have goals related to protecting or improving the condition of our environment: however, each policy has been separately designed, has different objectives (usually relating to single assets) and also specifies different means by which these should be achieved (e.g. different policy instruments).

Therefore, the aim of this research is to understand if and how policy instruments currently interact, and to help identify opportunities to align policy instruments through coordination or integration. Realising these opportunities offers the potential to better deliver multiple benefits and to make policy delivery both more effective and more efficient. The findings relate to the 'public funding for public goods' ideas that are part of discussions on potential post-Brexit environmental and agricultural policies. They are interim findings that will evolve and be updated as we explore new governance opportunities in the next few years.

Focus of the Research

We analysed ten policy instruments designed to safeguard or improve the condition of natural assets in both rural and urban Scotland, as shown in Figure 1 on the next page. The total set of instruments operating in Scotland is much longer; we purposively chose these ten to cover the diversity of different types of policy delivery instrument e.g. voluntary, regulatory, incentive-based or hybrid (combining one or more of the other categories) and to explore the effects on different types of natural asset (e.g. water, biodiversity and soil). The focus was on interaction and alignment within the environmental policy domain, though the data and analysis often illustrate the interplay of environmental instruments with other policies, projects and partners.

Methodology

The research used a two-phase approach. Firstly, a desk-based analysis of the ten policy instruments, used official documentation to answer common questions encompassing the objective, content and implementation of the instruments. We then carried out interviews with those who had designed or implemented the instruments. Our sample of 17 interviewees came from Scottish Government or its agencies. In some cases one individual was interviewed about more than one instrument. The interview participants were given an opportunity to comment on the draft findings; and these were also shared with participants at the Soil Engagement Group meeting (16/3/18).

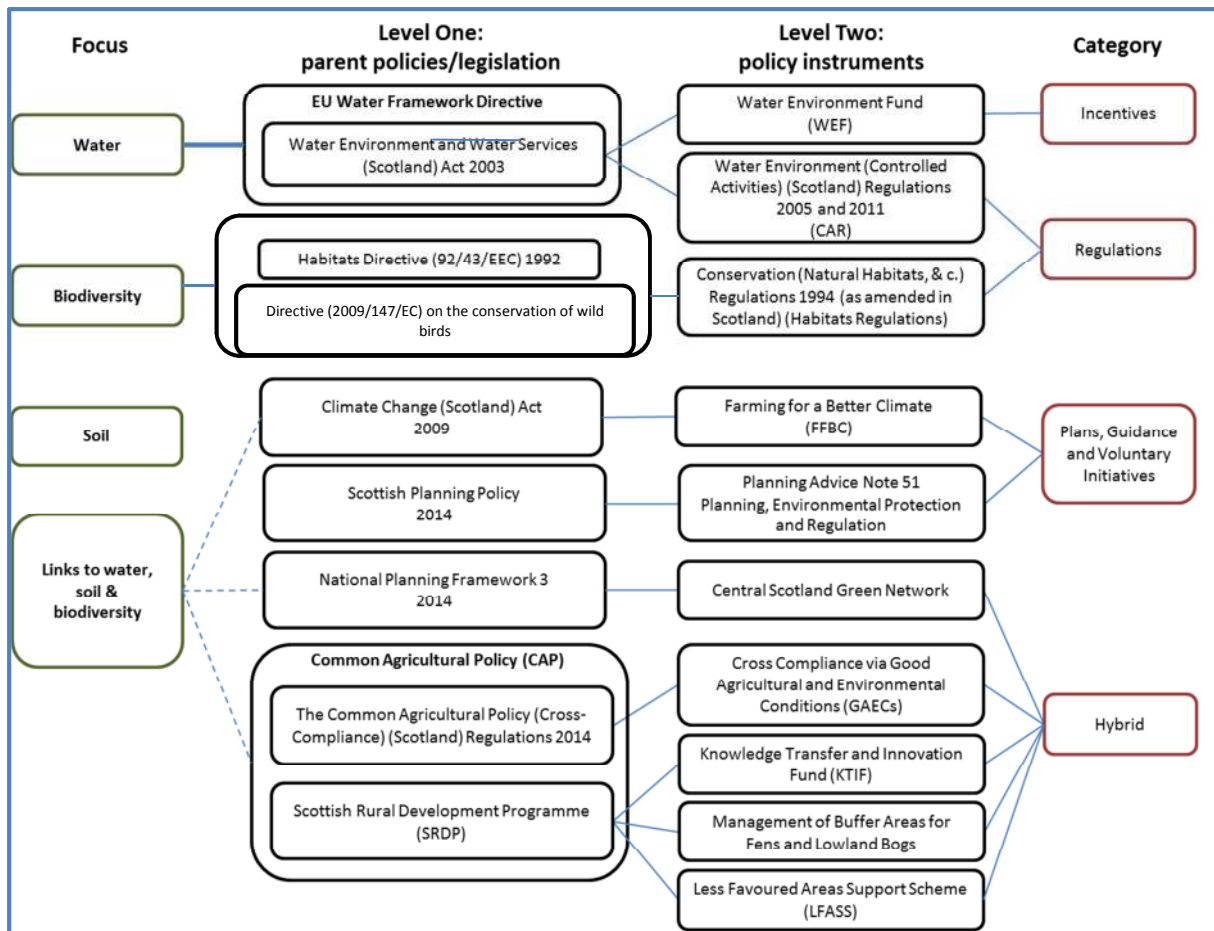


Figure 1: Policy Instruments chosen as the focus of this study

Are existing policy instruments delivering multiple benefits?

Our data suggest that most instruments do affect more than one natural asset, even though each has been created to help protect or manage one natural asset. For example, the NHR are targeted at terrestrial or aquatic biodiversity, but are implemented in ways that try to also protect soil and water quality where possible. This is good news as it shows that current policy delivery already shows some signs of coherence or integration. However, there are opportunities to do more, particularly in terms of protection of soil health, air quality, climate mitigation or increasing habitat and biodiversity gains. There are often relatively few instruments explicitly designed to manage these assets. Furthermore, the mix of instruments tends not to provide comprehensive coverage of settings and activities that can affect the asset. For example, biodiversity protection is mostly achieved by regulatory instruments applying only to specific designated areas, whilst soil management is expected to be achieved almost entirely by voluntary or hybrid measures. Imbalances in the mix of instruments available to achieve different policy goals could make it harder to achieve balanced delivery of multiple benefits. When considering if the mix of instruments should change, our interviewees showed more appetite for using voluntary rather than regulatory instruments.

Are there opportunities for better alignment? Does this mean coordination or integration?

We found no evidence of conflict between instruments and many layers of alignment. Many of our instruments are already complex and require working within or across organisations, and linking up diverse stakeholders. Most instruments already have formally recorded lists of other instruments

that they complement. There is considerable effort, often invisible externally, to avoid duplication or conflict by those charged with implementing different instruments. In addition to these efforts, our interviewees did identify opportunities for better alignment between instruments: including an opportunity for cross-compliance to achieve more for soil and climate change, and making more formal connection between CAR or GAEC and the PEPFAA code. Whilst there was debate about the exact definition of coordination and integration, our data suggests that most participants were in favour of closer coordination - meaning deliberate but informal working together for common outcomes - but were less keen on formally integrating instruments or organisations.

What are the challenges and opportunities for using policy instruments to deliver multiple benefits? Many of the challenges relate to the difficulties of partnership working in economically constrained contexts. Thus the challenges and desired changes closely correspond. Our interviewee's main ideas for changes can be characterised around the need for change in implementation, focus and attitude but also around need for more resources, capacity building and improved evaluation. Furthermore, some participants noted that it is not always possible to achieve multiple benefits and some prioritisation, tailored to local circumstances, may be required.

There are gaps to fill, and changes desired, so that policy instruments can help deliver balanced and coherent management of all of our natural assets, in order to deliver multiple benefits for society. Stakeholders that we spoke to recognised challenges to achieving this, but also felt positive about the potential to manage for multiple benefits. Many thought that there were already strong relationships between the main actors (Scottish Government and their agencies) and that there was an increasingly business friendly approach that could help increase engagement with land and urban businesses. Brexit was seen as creating uncertainty around future environmental standards and agri-environmental funding, but also as an opportunity to reflect and realign and to champion the importance of the environment to Scotland.

For further information or to discuss the findings in more depth, please contact Kirsty.Blackstock@hutton.ac.uk.

2. Introduction

This report summarises the research done from May 2016 to March 2018 regarding aligning delivery mechanisms that act on natural assets (biodiversity, soil and water). The report explains why the work was done, our rationale for selecting the 10 policy instruments to study, and the methods used. The results section examines if our ten selected policy instruments deliver multiple benefits and whether there are any gaps in delivery, across the three natural assets or beyond the environmental domain. The result section then considers what we have learnt about alignment, and whether coordination or integration was considered desirable. Finally, the results section summarises some of the challenges, desired changes, responsibilities and opportunities available to those working with these policy instruments.

2.1. Why did we do this work?

As part of a Scottish Government Strategic Research Programme on natural assets, we are interested in considering how we govern and manage the natural assets of biodiversity, soil and water on which our social and economic development depends. The research was planned in response to two drivers. Firstly, the Land Use Strategy (2016-21) identified the need for more policy integration between environmental and other policy domains to achieve the objectives of the Strategy. Secondly, we witnessed land managers (during several knowledge exchange events) who said they were confused by ‘conflicting’ policy messages from Scottish Government. These stakeholders either argued they were unclear about how they were supposed to manage their natural assets or that existing policy instruments actually prevented them from managing for multiple benefits. Therefore we wanted to establish if there were any conflicts between policy instruments, or if this was a perception without foundation. Furthermore, there is an ongoing drive to make public policy and its delivery both more effective and efficient, particularly in times of austerity. The potential exit from the European Union offers the opportunity to consider Scotland’s approach to managing the environment, and whether there are ways to improve our policy delivery. Rather than focus on reviewing individual policies and their implementation, we chose to focus on how policies are, could or should be more aligned (or as we discuss in our findings, coordinated or integrated). The focus on ‘alignment’ reflects a wider interest in academic literature and EU/global policies (e.g. Sustainable Development Goals, EU Fitness Checks) whereby there has been a shift from focussing on single issues to a more holistic approach to delivering multiple benefits. Therefore, we consider the following questions:

- Are existing policy instruments delivering multiple benefits?
- Are there opportunities for better alignment? Does this mean coordination or integration?
- What are the challenges and opportunities for any shift?

2.2. What did we study?

Many academic studies focus on how primary legislation or supporting ‘steering’ strategies (e.g. Land Use or Biodiversity Strategies) could or should align to produce multiple benefits. However, the literature on adaptive governance highlights the need for ‘vertical consistency’ between these high level policies and strategies and the ‘instruments’ that shape action taken to protect and sustainably use the environment. There is a marked lack of attention in the literature to the implementation of policy instruments and how they could or should interact. By instruments, we mean the regulations, incentives, advice and support mechanisms provided as part of delivering policy.

An initial survey of relevant instruments that either explicitly act on biodiversity, soil or water; or have an effect on all three natural assets produced a long list of over 50 instruments. We decided to select ten of these to enable a more detailed analysis of how these work in practice. The final selection of instruments, which was discussed and agreed at a [workshop](#)² in May 2017, is listed in the table below.

Tier 1 Parent Policy	Tier 2 Policy Instrument	Relationship to Natural Asset	Type of Instrument
Water Environment Water Services (Scotland) Act 2003, transposing EU Water Framework Directive 2000	Water Environment Fund (WEF)	Direct – Water (instrument has protection of water as main objective)	Incentive- (funding for restoration measures) – although analysis suggests considerable amount of advice involved as well
Water Environment Water Services (Scotland) Act 2003, transposing EU Water Framework Directive 2000	Water Environment (Controlled Activities) (Scotland) Regulations 2005 and 2011 (CAR)	Direct – Water (instrument has protection of water as main objective)	Regulation (prohibits uncontrolled water of water) – although analysis suggests that for tier 1 of general binding rules, there is considerable advice and awareness-raising.
EU Habitats Directive (94/43/EEC) 1992 and Directive(2009/147/EC) on conservation of wild birds	Conservation (Natural Habitats, & c.) Regulations 1994 (as amended in Scotland) (Habitats Regulations) (NHR)	Direct – Biodiversity (instrument has protection of biodiversity as the main objective)	Regulation (requires procedures to conserve specified habitats and species; and prohibits activities that might damage them) – analysis suggests there is advice associated with its implementation.
Climate Change (Scotland) Act 2009	Farming for a Better Climate (FFBC)	Indirect – Biodiversity, Soil and Water (measures to reduce emissions should protect natural assets)	Advice – voluntary approach to promote uptake of good practices
Scottish Planning Policy (2014)	Planning Advice Note 51: Planning, Environmental Protection and Regulation (PAN 51)	Direct - Biodiversity, Soil and Water (protection of natural assets is the objective of the advice note)	Advice and Guidance – statutory information to inform local authorities and statutory consultees in the planning process

² http://www.hutton.ac.uk/sites/default/files/files/17_05_22_142_Overview.pdf

Tier 1 Parent Policy	Tier 2 Policy Instrument	Relationship to Natural Asset	Type of Instrument
National Planning Framework 3 2014	Central Scotland Green Network (CSGN)	Direct -Biodiversity, Soil and Water (suite of projects for broad social, economic and environmental outcomes, most with explicit focus on protecting or restoring natural assets)	Hybrid Incentive - Advice - strategic framework to guide voluntary actions in a specific location; some small incentives for certain projects
The Common Agricultural Policy (Cross –compliance) (Scotland) regulations 2014 transposing the EU Common Agricultural Policy	Good Agricultural & Environmental Conditions (GAECs)	Direct – Biodiversity, Soil and Water (statutory management requirements and cross compliance require that soil, water and habitats are protected)	Hybrid regulation/incentive – statutory requirement to receive funding, can result in loss of incentives; often implemented with further guidance
Scottish Rural Development Programme 2014-20 transposing the EU Common Agricultural Policy	Knowledge Transfer for Innovation Fund (KTIF)	Indirect - Biodiversity, Soil and Water (measures to reduce emissions should protect natural assets)	Hybrid incentive – advice – groups can apply for funding to trial innovations as well as learn from best practice
Scottish Rural Development Programme 2014-20 transposing the EU Common Agricultural Policy	Management of Buffer Areas for Fens and Lowland Bogs (BAFLB)	Direct – Biodiversity, Soil and Water (measures to improve habitat with strong soil-water interactions)	Hybrid incentive – regulation – incentive available to promote good practice management (going beyond what is required by cross-compliance) whilst complying with environmental legislation
Scottish Rural Development Programme 2014-20 transposing the EU Common Agricultural Policy	Less Favoured Areas Support Scheme (LFASS)	Indirect – Biodiversity, Soil and Water (payment to livestock farmers facing bio-physical constraints on production – some argue that maintaining extensive farming systems is positive for natural assets, but evidence is contested and LFASS is not designed to be an environmental instrument)	Hybrid incentive-regulation – Compensation for additional production costs available to all farmers meeting the criteria, but they are required to meet minimum standards (e.g. cross compliance).

It should be noted that we included PAN51 to ensure we have a planning instrument, but participants highlighted how the planning guidance has evolved and this instrument could be considered as somewhat outdated. Likewise, participants highlighted that LFASS is not explicitly designed to protect the environment, although it is often portrayed as having environmental objectives.

These instruments were selected to purposively provide maximum variability. Therefore the instruments include regulations, incentives, statutory guidance, social learning and combinations of these categories. The instruments include both those that are explicitly focussed on environmental protection and those that have environmental protection as one of multiple objectives. Many instruments apply throughout Scotland, but some are targeted to specific areas; and we ensured we have instruments acting in urban as well as rural areas. Some instruments are quite new, others are new incarnations of schemes or approaches with a longer history, and some have been in place for some time. The idea for this range was to illustrate whether there were commonalities or contrasts against a number of different criteria, so we could be more confident of when and how alignment, whether coordination or integration, might be beneficial.

2.3. How did we study these instruments?

We did the research in two phases. Firstly, we undertook desk based document analysis to gain a better understanding of each instrument. For each instrument, we conducted content and thematic analysis of all publicly available documents published by the Scottish Government and its agencies that cover these instruments. We also explored other sources of information such as media and evaluations by non-governmental parties but in order to ensure consistency of comparative analysis, we restricted the analysis to documents from those sources that design, administrate, monitor, implement and/or enforce the instrument. Using a standard template we analysed the documents in order to answer the template research questions. To facilitate this process, the templates were completed by individual researchers as word documents; discussed amongst the research team and updated if required; and then imported into an NVIVO 11 project database. Using the framework analysis approach, where summaries of data from each interview are arranged in a grid to compare criteria (Ritchie and Lewis, 2003), the findings for the 10 instruments were compared and contrasted. The draft findings were introduced to an audience of environmental policy makers and end-users at a workshop in May 2017, where the approach and initial results were confirmed.

However, we recognise that official documents will not provide a full understanding of how policies were designed and are implemented; and cannot answer whether or how further alignment could take place. Therefore, we wanted to interview individuals associated with designing or implementing these instruments to ensure we understood whether further alignment was required and the benefits or challenges of trying to achieve this. We identified a sample of individuals within Scottish Government and the relevant agencies who were responsible for designing or implementing each instrument and contacted them during the late summer and autumn of 2017. We ended up conducting 17 interviews, with people who were the experts on these instruments within their organisation. In two cases, we interviewed two individuals about more than one instrument; and in one case we had a group interview with two people regarding the same instrument. We had two interviewees for every instrument except for the NHR case, where we were only able to interview one person. Whilst this is fairly small number, the 'population' of those who are responsible for

designing and implementing these instruments is also small and we feel the findings are representative of this population for these instruments.

Every interview was recorded, transcribed and used to update the templates above. These updated templates were returned to these interviewees to ensure we had understood what they were telling us. As with the document analysis, the transcripts were loaded into the NVIVO11 database. Codes were applied to the text that allowed us to analyse the material thematically. Again, we used the framework approach to compare and contrast across the instruments. To increase the rigour of the approach, we ensured that individual researchers coded transcripts of interviews that they did not do themselves and we met to discuss our different interpretations of the data and ensure that we have evidence for our claims. The draft report was returned to interviewees to give them another chance to correct any misunderstandings, as well as to share our results.

Please note that in our attempt to keep this report brief and focused on the key points of interest to our audience, we have necessarily left out some aspects of our findings. For example, we have data around types of instruments and modes of implementation that we only address indirectly in this report. We have also been unable to represent the nuances explained to us by the participants. Finally, whilst we believe our findings are a good summary of the information provided by the data described above, we do not claim that these findings are representative of all policy instruments; nor of all those who work with these instruments across Scotland. The fact that the findings often repeat other research in Scotland and other settings suggests that these ideas are robust and worth considering, but they are not automatically generalizable.

3. Results

Here we present the most relevant results for the questions:

- Are existing policy instruments delivering multiple benefits?
- Are there opportunities for better alignment? Does this mean coordination or integration?
- What are the challenges and opportunities for any shift?

3.1. Delivery of Multiple Benefits

In general, many instruments are already delivering multiple benefits, either as part of their deliberate design or through the way they are implemented. The language of multiple benefits in the context of natural assets often arises from an ecosystem services or natural capital framework, whereby natural assets provide our natural capital, which produce services that provide benefits. Thus benefits are associated with final outcomes, a change to the state of the environment, economy or society. This tended to be true, at first analysis, for the regulatory or statutory instruments, for example the NHR focussed primarily on habitat protection and restoration; GAEC and SMR principles focussed on soil and water protection; and CAR focussed on protecting water quality. However, as our data also illustrate, there are many desired intermediate or process outcomes or benefits that are sought, such as changing attitudes, leveraging funding through partnerships or encouraging new management actions that are seen as necessary precursors to these final outcomes for environment, economy or society. For example, FFBC and KTIF do aim to improve the water and soil assets of the farms, but the focus is on farmer-to-farmer learning and innovation to improve efficiency of their businesses. Through raising awareness of the opportunities,

they hope that farmers will change their daily practices to benefit carbon sequestration, reduce greenhouse gas emissions, improve soil health and limit diffuse pollution to water.

Those instruments premised on voluntary uptake were often more focused on a range of benefits. We wonder if this is because regulatory or statutory instruments are compulsory and do not need to be promoted and encouraged as much as voluntary measures where combining a responsibility for environmental protection with a business or social benefit may help raise awareness and increase uptake. However, as we will discuss below, even regulatory and statutory instruments required support to ensure that their end-users (e.g. developers, industry or farmers) were aware and compliant with the requirements. Therefore, instruments that were not designed (at the time) to deliver multiple benefits, are sometimes implemented on the ground to facilitate more than one effect as part of the process of delivery. The debate over LFASS, which is an income support measure but is often interpreted as a means to achieve environmental benefits, is an example of where the delivery of multiple benefits may mean there are different interpretations of what an instrument should or could deliver, beyond what the original aim of legislation intended.

Some policy instruments were explicitly focussed on environmental protection through their aims and objectives, and were primarily designed to deliver protection of biodiversity, soil and/or water (e.g. CAR, NHR, BAFLB, GAEC, WEF). Others had wider official objectives and rationales for intervention, having environmental protection as part of an overall objective for social and/or economic development (e.g. CSGN, PAN51). Therefore, we can distinguish between those that aimed to deliver multiple environmental benefits and those that aimed to deliver multiple benefits spanning environmental and other forms of benefits.

Within the group of instruments focussed on environmental benefits, many were actually providing, considered as providing, or having the potential to provide, protection or restoration to biodiversity, soil and water (see gaps in section below). Furthermore, even where the instruments are explicitly focussed on environmental protection and improvement, our interview participants were often mindful of the fact that a healthy environment was a resource for society and industry to use sustainably. Although the primary aim was on delivering multiple environmental benefits, there were generally secondary or indirect social or economic benefits arising from an improved environment.

Within the group of instruments focussed on wider multiple benefits, the instruments were used to combine protecting and restoring natural assets with social benefits (recreation, local amenity, health, social cohesion, retaining population, education, crime reduction) and economic benefits (employment, wealth, maintaining food, water or energy supplies). The objectives of these instruments were very much premised on the argument that an improved environment provides social and economic benefits for society as well as the local communities. Therefore, both our document analysis and much of the interview data reinforced a prevailing perspective of the importance of natural assets for wider policy objectives. However, in a few cases, the interview participants felt that it was important to focus more on the social or economic opportunities for farmers, with reduced focus on environmental benefits (e.g. LFASS, one participant regarding KTIF).

Therefore we have shown that many of our instruments already aim to provide multiple benefits including acting on more than one natural asset. This is true even when the instrument was not originally intended to deliver multiple benefits beyond the environment. However, there were gaps

identified where further benefits could be delivered. We split these findings into two parts – gaps in delivery to natural assets and other gaps.

3.1.1. Potential gaps

Soil and biodiversity came up more often than water in our interview data. This may be due to the instruments we selected to focus on, or the participants we interviewed. With regard to soils, a number of interviewees felt that the lack of a Soils Directive equivalent to the Habitats, Birds and Water Directives meant that soils were often an indirect rather than a direct focus of regulation. Although the instrument could address the protection of soil, some participants felt that these aspects were not as well implemented as they might be (e.g. GAEC, CAR, PAN51, CSGN). With regard to biodiversity, some participants felt that some instruments (CAR, GAEC, FFBC, LFASS) could achieve more biodiversity outcomes if redesigned or implemented in other ways. In our data, no one seemed to feel that there was a gap in protecting water as a natural asset. However, one of our instruments (WEF) was explicitly developed to fill a previously observed gap in the policy landscape; and others recognised that the potential of an instrument to protect water was not always fully realised (PAN51, BAFLB) or the ability to connect with natural flood management fully taken advantage of (WEF). Some participants identified other gaps, for example, the ability to work more explicitly with land use planning regimes to improve the speed and effectiveness of the planning process (PAN51, CAR, CSGN); or to deliver more health and wellbeing outcomes (WEF and CSGN); or harness innovation for economic development (KTIF).

Sometimes these gaps seemed to be due to the initial design of the instruments where there was no explicit requirement or encouragement to consider these natural assets or wider benefits. Sometimes these gaps were due to the implementation of the instruments, whereby the objectives of the instruments would allow the gaps to be tackled, but these opportunities were not acted on due to implementation challenges (see section on challenges below). In some cases, the fact that an instrument could address a gap did not mean the participant felt it should address a gap. In fact, in a number of cases, the participant felt that without radical policy change, it would not be appropriate to make existing instruments more complex by adding further objectives. However, the fact that these gaps existed might explain why some stakeholders expressed the need for a more holistic and comprehensive vision for the environment. The SEG participants were also interested in learning about gaps in delivery; and whether the gap lay in the initial objective of the instrument (or its primary legislation) or in the implementation process. In the next section, we go on to consider whether further alignment, coordination or integration could help to fix these gaps.

3.2. Alignment, Coordination and Integration

This section uses the term alignment to mean the overall processes of working more closely together. Our data illustrates that alignment can take place in terms of policy instruments; organisations and individuals; and projects. As we unpack further below, there are multiple layers to consider – within instruments, within projects or programmes, within organisations and between instruments, projects/programmes and organisations.

Alignment was not a ‘natural’ term used by most participants. Most of our participants used terms like coordination or integration more frequently. The term coordination tended to refer to an intentional decision to work together for common outcomes, or at least to avoid duplication or conflict between policy objectives. In some cases, the discussion was very focussed on the

coordination of different policy instruments e.g. using regulations combined with incentives or advice, whilst in others, the focus became more about communication and relationships between individuals and organisations. However, integration was often seen as ‘stronger’ than coordination and requiring a formal combining of instruments, processes or projects. In other words, integration meant going beyond complementary processes to a single process, instrument, project or organisation. What we understand from this is that for some participants, integration required a change – either in legislation or in organisational structure – whereas coordination could be achieved through voluntary choice within the existing context. One outcome of this difference is that coordination can be reversed or stopped, whereas integration is more formal and therefore less flexible. However, some participants cautioned that - in the words of one participant - there was a “semantic difference without a practical distinction”. We found that often the terms “coordination” and “integration” were used interchangeably with each other; and with the terms “partnership”, “collaboration” or “interaction” during our discussions. Therefore, we will focus on the reasons for and processes involved in closer alignment rather than focus on exact definitions of coordination or integration.

3.2.1. Alignment within Instruments

Our data illustrates that many policy instruments are already implemented in ways that require considerable alignment, coordination or integration as part of their existing practice. Many agri-environmental instruments (FFBC, KTIF, GAEC, BABLF) are implemented through a network of relationships with agencies (SNH, SEPA, RPID) and consultants (SAC and others). This effort in ensuring that there is partnership working is also found across other instruments – for example CSGN involves a very wide range of public, private and 3rd sector partners; and even the seemingly ‘narrow’ environmental regulations require working with a range of industry partners and intermediaries to manage outreach, uptake and monitoring. The implication of these observations is that there is already considerable investment in alignment within these delivery instruments which requires resources and strategic planning. This is important when considering to what extent it is feasible and desirable to further align these (and other) instruments.

3.2.2. Existing Alignment between Instruments

All instruments explicitly mention other policy instruments according to our document analysis. Our examples drawn from the SRDP for example highlight the considerable effort expended when designing the overall programme to ensure that all instruments within the programme complement one another and do not duplicate. We would describe this as more coordination than integration according to our working understanding. In other words, instrument A would work with policy instrument B but these instruments have not been explicitly integrated. The exception to this rule is within SRDP/CAP. Whilst cross compliance and GAEC were seen as good examples of alignment across to other instruments such as LFASS, KTIF, NHR and CAR, there was debate regarding whether these instruments were formally integrated or only coordinated. These interactions may be within the environmental domain (e.g. CAR and GAEC; KTIF and WFD and PEPFAA code) but often require working across policy domains into transport, land use planning or economic development (e.g. CSGN and Vacant and Derelict Land Fund; GAEC and EIA regulations; NHR and tourism instruments).

There was also alignment within the agricultural domain linking environmental instruments with others (e.g. KTIF, FFBC, LFASS and the Farm Advisory Service; GAEC and Greening Pillar 1 payments). Several participants stressed that the overall SRDP was designed to be a coordinated programme;

and often use schemes in the SRDP to deliver environmental directives such as WFD or Natura 2000. Our analysis also did not suggest any areas of direct conflict. However, one participant discussing BAFLB did highlight an earlier conflict between protection of bathing waters and grazing that has been resolved through communication and revision to the scheme guidance. This participant noted that it is important to highlight the current work that goes on precisely to avoid conflict between instruments. Therefore, the perceptions of conflicting advice held by some land managers, may reflect past experiences and these failings are now being addressed. As part of this alignment, there is also coordination between different organisations and different projects. Thus, we have integration of objectives and approaches plus coordination of partners and end-users *within* instruments; and a layer of existing coordination *between* instruments, partners, projects and end-users already being delivered in Scottish environmental governance and management.

3.2.3. *Reasons for Alignment*

Reasons for alignment between (and within) instruments fell into four main themes: to deliver clear messages; to fill gaps; to improve efficiency; to improve effectiveness – in terms of uptake, and delivery of multiple benefits.

Firstly, some participants felt it was important to ensure alignment and to coordinate implementation of different instruments within and between organisations to avoid giving conflicting messages and increase the awareness of the need to, and benefits from, protecting natural assets. This speaks to ensuring that end-users have clear and unambiguous messages and are clear about their roles and responsibilities; and tended to focus on the importance of having a clear common vision for “the ultimate goal”.

Secondly, some participants also spoke about coordinating between instruments to fill gaps in the policy landscape (e.g. around biodiversity gains from riparian buffer strips) or to help make the implementation of existing instruments more flexible. One interviewee, discussing how they struggle to deliver multiple environmental benefits from environmental regulations noted that “coordination is making the best of a bad job really”. Obviously this reason starts to conflict with the desire to have clear messages as described above.

Thirdly, some participants felt that better alignment would make environmental instruments, particularly regulation, more streamlined for end-users and implementing agencies (CAR, PAN51, NHR) or could help leverage more funding for common outcomes (CSGN). Interestingly, whilst some participants felt more alignment would be more effective (see fourth point), they did not feel it would always mean more efficiency. This is because they believe alignment might make things more complex, which could take longer and/or require more guidance and advice.

The fourth reason for alignment reflects the starting rationale for our project – that alignment of instruments could deliver more benefits than individual instrument in isolation. However, we had not anticipated that alignment could also help with uptake. A few participants remarked how cross-compliance – associating environmental regulations such as CAR with the threat of losing farm payments under Pillar One of the CAP – improved the awareness of these regulations. Another participant also emphasised the importance of encouraging and incentivising the private sector, rather than only telling them what to do. This was not only about having an effective ‘punishment’ but also about the approaches used to raise awareness. By making this about good practice, for the long term viability of land-based businesses, the message was more palatable. This also applied to

other industry end-users (housing, manufacturing, transport for example): discussions about how to improve environmental performance beyond the statutory minimum requirements suggested a concern to improve the awareness and uptake in these sectors too. A number of participants also highlighted the fact that better alignment would increase the delivery of multiple environmental benefits (BAFLB, NHR) or benefits for society, economy and the environment (CSGN, CAR, PAN51).

3.2.4. Potential (new) Alignment

When we asked our participants whether further coordination (intentionally working more closely together) was required, most agreed that it was needed. However, a few of our participants did not agree. These were generally Scottish Government participants who felt that it was important that instruments had clear and unambiguous objectives; and that coordinating instruments could 'grey the boundaries' and make the objectives too complicated and unclear – "the more you make it interactive, the more complicated it becomes". However, this was not a view held by all in Scottish Government, as others from the same organisation did identify areas for potential new alignment. Some participants (from Scottish Government and other agencies) were ambiguous or preferred not to answer. Some participants (BAFLB, LFASS) felt the idea of further coordination was attractive in theory, but they were concerned about how it could be achieved.

The areas where coordination should or could be improved between instruments were: between environmental permitting and land use planning and development (CAR, PAN51, CSGN); to increase protection of soil and water (BAFLB, GAEC, NHR), particularly through increasing the link between GAEC and GBR 18 or improving how options like BAFLB could deliver WFD objectives; to better nest WEF within wider NFM projects; to tackle air quality (NHR) and cumulative environmental impacts from development (PAN51). Furthermore, instruments like KTIF and FFBC were seen as needing closer links to LEADER and food processing aspects of the SRDP; and to have more focus on social and economic outcomes (KTIF). These suggestions closely mirror the gaps identified in the section above.

Interestingly, there were also plenty of comments about how to improve the alignment of projects or organisations in delivering one or more instruments (as opposed to instruments themselves). For example, there were comments about the need to try to improve uptake through increased education of end-users – working in partnership with farming or development organisations was one way to achieve this (KTIF, FFBC, PAN51, GAEC). Some highlighted the need for a project officer with sufficient skills and budget to enable the alignment of objectives and activities between organisations (BAFLB, KTIF) – "you can coordinate until the cows come home but ultimately you are dependent on the right people at the right time doing the right thing to make it work". Another participant (KTIF) noted the need for an instrument to enable coordination of people such as the now-withdrawn ECAF. Issues regarding the need to improve learning and use monitoring to evaluate and improve delivery were also raised (see comments on actions below).

The processes by which coordination could or should occur reflects the split between alignment of instruments and alignment of projects and organisations. With regard to aligning instruments, this can occur in the design or implementation stage. It is important at the design stage of any instrument and there were references to the considerable communication within Scottish Government and agencies to ensure instruments could complement but not duplicate efforts. There are also opportunities to use statutory consultation processes to align (particularly in the permitting

of development). Alignment of instruments (particularly AECs options) could be improved by signposting potential combinations to advisors, to encourage more creative use to achieve multiple benefits (BAFLB). Alignment of projects or organisations to achieve multiple benefits included the ability to use WEF in conjunction with NFM projects; or making the links between KTIF and FFBC and other innovation activities (e.g. Innovation Support Service). The enabling factors for coordination are discussed in the next section under opportunities. Instruments can be coordinated without necessarily requiring existing projects or organisations to form new partnerships.

Unlike for coordination, there was less enthusiasm amongst our participants for further integration of instruments. Within SEPA they are in the process of developing an Integrated Authorisation Framework to bring environmental permitting regulations, including one of our cases, CAR, into one process. This could be seen an example of where the need for integration has been identified and is being addressed. However, as one participant noted, the IAF does not integrate environmental instruments with instruments in the land use planning or infrastructure domains. As already observed, some participants argued that SRDP and its schemes were another example of an integrated approach. Areas where a few participants felt integration could be beneficial was to integrate GAEC with CAR more effectively; or KTIF with the Innovation Service; however, from the data it seems like these individuals used coordination and integration interchangeably so it was not clear if they wish for more alignment or full integration (into one instrument).

We believe that this lack of enthusiasm for full integration is premised on the understanding that integration is a formal, top-down approach requiring legislative or organisational change that may be too demanding in a time of scarce human and financial resources (see barriers below). The example of the Fishery Management Scotland was given by one participant whereby they argued that it was more useful to have coordinated organisations as “you need slightly arm’s length groups to do different jobs”. Furthermore, participants were concerned with making instruments unwieldy and losing their focus (BAFLB, CAR, LFASS).

Interestingly, the trend towards reducing planning guidance was highlighted as an attempt to integrate and simplify but one participant felt this may reduce the visibility of the pro-environmental message (PAN51). It is also important to note that many of our participants felt that the decision for further integration was one for Scottish Government at ministerial level, whereas cooperation could be developed more informally during implementation, involving relationships between implementing agencies. The exception to this rule was one participant who saw coordination as a strategic activity involving Scottish Government, whereas integration occurred during implementation ‘on the ground’, which might imply that for this participant, integration was easier to achieve that coordination.

Overall, it appears that there are layers of alignment – within instruments, between instruments in a spectrum from looser, informal relationships to more formal statutory requirements or frameworks, and within and between organisations and projects. Whilst most people could recognise room for improvement, we interpret the data to suggest that enabling coordination would be preferable to seeking further integration into fewer instruments with a broader range of objectives. Many of our participants’ enthusiasm for the opportunities for more alignment were tempered by the general implementation challenges they face in their work, and identified areas for change. Therefore, we turn now to the opportunities, challenges, actions and responsibilities that arose in our data.

3.3. Challenges, Changes, Responsibilities and Opportunities

Many of the participants commented on the challenges of implementing existing instruments (and their associated projects) for multiple benefits as well as the challenges involved in further alignment. There were a number of desired changes identified that might help overcome these challenges; and some opportunities to work with.

3.3.1. Challenges

These challenges fall under the following themes: uncertainty; perception of environment: funding; economic context, lack of political will; monitoring, climate change, bureaucratic constraints.

A small number of participants discussed the uncertainty surrounding the proposed departure from the EU and the impacts on environmental policies in Scotland (GAEC, NHR, KTIF). The EU has been a driving force for environmental improvements, through both the provision of standards and facilitating funding for environmental improvements; and it is unclear how both aspects will be sustained in the future. However, no longer being bound by EU requirements was also seen as an opportunity (see below).

A few participants discussed how implementation of the instruments was problematic due to a clash of perspectives on environmental issues and priorities. For example, implementing the WEF often exposed a divergence between the scientific and local community's perceptions of whether existing impoundments could or should be retained. Participants interviewed about the range of instruments that engaged with land managers often talked about the need to raise awareness of diffuse pollution and managing soil health, suggesting that whilst attending to these was good agricultural practice, many farmers who considered themselves as stewards of the land were still not compliant with the requirements. This is a particular issue when the cultural heritage of certain areas prioritises farming styles that clash with environmental restoration such as 'over'-stocking hill sheep (GAEC, CAR, NHR and BAFLB). Furthermore, some agency participants highlighted how it was not always possible to manage for all benefits; and sometimes prioritisation or compromise was required based on local circumstances.

Funding was an issue that came up in almost all the interviews. This issue had multiple dimensions. Firstly funding amounts, with participants noting that budgets were insufficient and often they were having to creatively combine funding from multiple sources with the resultant increase in transaction costs, reporting and potential for conflicting priorities (CSGN, WEF). Secondly, funding durations with some participants noting the difficulties imposed from having single year budgets, or trying to plan strategically with shorter term funding commitments (CSGN, WEF). As a counterpoint, one participant felt that the KTIF programme could have funded more short-term projects to achieve its objectives. Finally, some participants identified that funding for monitoring and evaluation was insufficient (GAEC, BAFLB, CSGN) – this was often linked to uncertainty about BREXIT when the statutory basis for monitoring might be weakened.

The broader economic context was discussed in many of our interviews; in some cases the implementation of the instruments was being affected by the economic downturn. Firstly, austerity measures in the public sector have had an impact. The ability to ensure the communication within and between organisations required to coordinate instruments and activities in projects was seen as

being compromised by budget cuts whereby there were less staff members available to play these roles, and they were already busy trying to deliver other duties (KTIF, WEF, CSGN). Secondly, the economic context meant that private sector, third sector and land owning organisations have less capacity to absorb costs and were more focussed on business viability than delivering environmental improvements (FFBC, CSGN, WEF). Whilst one interviewee felt the implementation of NHR might be influenced by the economic context, another interviewee on CAR felt that there was no effect as environmental standards had been judged to be proportionate and must be met. Note that some instruments aimed to reduce the cost burden (WEF) or help improve business viability (LFASS, KTIF, FFBC).

Lack of political will came up in some but not all interviews. For example, one participant felt that it would be possible to address the gaps in soil protection or biodiversity restoration through new instruments but the Scottish Government had chosen not to pursue these options; another felt that both evidence and political will was needed to act to fill gaps. Another felt that Scotland had the knowledge base for further alignment but “the acceptance of a policy move isn’t there”. In several cases (CSGN, PAN51, WEF), participants felt Scottish Government could tackle the gaps and areas for great alignment, but were yet to provide this clear direction. References were also made to different Ministers having different priorities which made it more difficult to focus on common objectives.

Monitoring and learning were issues raised by several individuals – not only the lack of funding for monitoring the state of the environment (CSGN, NHR), but also the sense that there was a lack of monitoring that illustrated the effectiveness of the instrument and whether the goals were being met (KTIF). One participant pointed out that there was an information gap in terms of monitoring and evaluation, and therefore the impact was difficult to determine (KTIF). However, one participant stated that monitoring would divert funds from other work (WEF) and another stated that monitoring (beyond compliance) was not required as the regulations were designed in order to achieve the outcomes required (CAR).

Climate change was discussed as a challenge to implementing some of the instruments, possibly as this is a new area for environmental policy to consider. For example, changes in weather patterns and intensity were impacting the environmental outcomes that some instruments (NHR, BAFLB) are designed to protect or restore. Interviewees regarding GAEC and PAN51 also felt climate change should be further considered. In some cases, climate change was considered but it was not the driver for the objective – for example WEF takes flood risk into consideration but it is not a determining factor in targeting the funding; or CAR’s focus on preventing deterioration increases resilience to other stresses of climate change. Finally, two of our instruments are focussed on responding to climate change (KTIF and FFBC), however even these recognised that responding to climate change and its impacts or trade-offs within a farming system could be challenging.

Finally, we turn to bureaucracy. Some participants (all from Scottish Government) felt constrained by the requirements of the European Union; and others noted that schemes within the SRDP were not very flexible and rather cumbersome, which may be due to compliance with EU audit requirements (KTIF, BAFLB). The NHR were seen as insufficiently flexible to take account of climate change; and others commented on the fact that instruments were often not flexible enough to be tailored to different farm types and farming styles. The desire to have flexibility to respond to local context (both biophysical and socio-economic) was also raised by the SEG participants. Some

participants felt that uptake of instruments was constrained by a fear of being penalised for inadvertent non-compliance (BAFLB, GAEC).

It is hard to disentangle what are challenges associated with implementing any policy instrument; challenges associated with any type of partnership working and specific challenges related to further alignment, something also discussed during the SEG. What does seem clear is that any further alignment will have to respond to the challenges involved in implementing single instruments plus those arising from working in partnership with other organisations or aligning with other instruments. It is important to note that whilst participants were realistic about the challenges facing them, these were not seen as a reason not to seek changes or opportunities for alignment – “So it makes people’s world a bit more complicated. But I think we’d get more out of it” (CSGN).

3.3.2. Changes needed

Although most participants were positive about the implementation of existing instruments and how they are, or could be aligned, there were many areas where changes to make improvements were identified. It is worth recognising that all the instruments in our cases seem to have changed and evolved through time, some seem to be more dynamic than others – for example CAR has been revised many times since 2005 and is now being superseded by the Integrated Assessment Framework; whereas the NHR seems relatively static in comparison. However, NHR is one area where participants did not think much change was needed, at least in terms of implementing the specific instrument. We have identified eight cross cutting categories where changes might be needed: Capacity building; Implementation change; Different focus (on other natural assets or other problems); Resources; Attitude; Change in instrument; and Better evaluation. Many of these could be applied to the individual instruments as well as to improving alignment. Finally, we discuss where participants particularly identified areas where changes to coordination or integration could be, which was one of the biggest categories.

Participants acknowledged the need to build capacity to deliver both individual instruments and enable the partnership working often required to leverage further funding or ensure uptake. For example, SEPA have had to learn new skills not only in how to work in partnership but also how to understand contract management and ensure that "major build type projects actually deliver on time" (WEF). There could also be more emphasis on the environment benefits of cross-compliance and training could be provided to help ensure that environmental benefits are achieved and promoted during inspections (GAEC).

Participants also noted the need to increase resources; both for staff time such as dedicated project officers and also for capital project spend. This relates to the challenges noted above about lack of staff resource and also having to combine multiple funding sources. These changes were specifically discussed in relation to three voluntary funding instruments (WEF, CSGN and KTIF).

Participants also acknowledged the need to change how instruments were implemented. This might be ensuring effective promotion and targeting to key audiences (FFBC, CSGN, BAFLB) and more effective brokerage (KTIF); improving the clarity of the guidance (PAN51) or just ensuring cross-compliance is fully and properly enforced (GAEC). However, in one case, a participant did not feel any change was needed regarding the implementation of the instrument (NHR) – this might be because the regulations are now well understood. Both agency and SG interviewees were concerned

with ensuring mechanisms were able to deliver the required outcomes. In particular, avoiding things becoming too complicated and/or increasing regulation, this can dampen uptake and innovation through farmers' 'fear of doing the wrong thing'. Instead, some agency interviewees wanted instruments to be more flexible and take more account of diverse farming practices across the country. Again, these changes reflect the challenges identified above.

Some participants would like the instruments to be changed to expand their objectives. For example, the FFBC scheme could increase the focus on biodiversity. There was most comment reserved for cross-compliance; the GAEC could improve the focus on soil protection including making explicit links to the PEPFAA code; reincorporate guidance on muirburn and nesting birds; and making stronger links to the climate change plans to help Scotland meet its mitigation targets. The climate change issue was also picked up in discussing CSGN and the potential of green infrastructure for mitigation and adaptation. These potential changes are one way to address some of the gaps noted in the section above.

A number of participants brought up the need for a change in attitude, around how things are perceived and understood. It was sometimes expressed as 'cultural barriers'. This change was needed amongst politicians who needed more 'political courage' to act radically and avoid 'sticking plaster' solutions (WEF, CAR³). Something potentially needing political will would be a switch to focussing on environmental outcomes, rather than prescribed practices, which was highlighted by agency interviewees for water, biodiversity and planning. The change was also needed amongst industry including farmers (BAFLB, GAEC) to understand the benefits of protecting their environment to water quality, soil health, and biodiversity but also their business costs. An associated idea promoted by one agency interviewee was the need to explain benefits of farming on the environment to non-farming public. These ideas were also reflected in the SEG discussion around ensuring sufficient flexibility and granularity in the application of national level policy instruments.

Some of our participants wanted to see changes to the instruments to make them more effective. For example, to make BAFLB more effective would need either increased payment rates or to have a requirement under GAEC to keep bog and fen areas in good condition. As noted elsewhere, there was a desire to include GBR18 into the SMA or GAEC, which would require Scottish Government to amend legislation. Interestingly, one participant felt it was difficult to change regulations stemming from a European Directive, such as NHRs, perhaps suggesting change might be needed but it was not practical to do so. We also note that change is already happening in some areas, for example the consolidation of environmental permitting processes into one Integrated Assessment Framework (PAN51, CAR). More radically, one participant wanted to see a move from an agricultural policy to a land policy that included all aspects of the environment.

Finally, changes are required in the area of monitoring and evaluation. Firstly, the need to understand more about what is hindering uptake or, conversely, making an instrument work (FFBC, KTIF, CSGN, PAN51). This requires talking to end-user, including those who do not take up the

³ Note this came up during interviews about the WEF and CAR instruments as part of a general discussion and was not related to the implementation of either instrument per se.

incentives or engage with the support services (BAFLB) or those being regulated (NHR). Some participants felt it was important to take this step before considering whether or how to change things (PAN51, KTIF, FFBC, CSGN); which may have implications for alignment. Until it is clearer how to make individual instruments work better, it may be difficult to assess the costs and benefits associated with aligning instruments. Secondly, the ability to illustrate the 'business case' for further funding for instruments was dependent on having a strong evaluation framework. Thinking about evaluation can help understand why and how instruments work (as discussed above). Evaluation was also essential to illustrate impacts (KTIF). There was an interesting diversity of views on the need for monitoring – whilst some felt monitoring was sufficient, others believe that Scotland is currently lacking a "thorough scientific robust assessment of it all" (GAEC). Linked to this was the need to use existing knowledge more effectively, including having or making use of long term monitoring data (agencies, water and biodiversity).

We now turn to considering what changes regarding coordination and integration were explicitly identified. Unsurprisingly, these match the views on why alignment was required, but here we focus on what might need to change. There were two main themes: relationships within and between organisations and relationships between instruments. With regard to relationships between organisations, some participants noted difficulties in identifying the right organisation to work with (e.g. WEF and the health and wellbeing community where there was no single organisation to interact with). In other cases, delivery of the instrument is reliant on 'beneficiaries' where there is always scope for improvement (KTIF). A few participants felt that the environmental and agricultural parts of Scottish Government needed to be 'better joined up' to enable to delivery of environmental targets. One could infer the need for more joined up interaction from comments regarding the 'right policy landscape' for CSGN that doesn't prioritise grey infrastructure over green infrastructure. It was clear from the data that coordination requires trust, clear and continual communication, a common vision and agreed objectives.

With regard to relationships with other instruments, participants identified the need to improve the 'crossover' between FFBC and GAEC; between KTIF and Measure 16 of the RDP; between GAEC and existing good practice e.g. PEPFAA code; between CSGN and the climate plan plus measures like green infrastructure; and to improve the understanding of how environmental and development planning permitting processes overlap and intertwine. An aspect that connected relationships between instruments and organisations is the use of indicators. One participant highlighted how different instruments use different indicators. They need to be more compatible, if there are going to be interdependent and working towards similar goals (BAFLB).

3.3.3. Responsibilities

Our interview data confirmed that in all cases the Scottish Government initiated the instruments and were the ultimate 'owner' of the instruments. This is unsurprising as we selected our 10 cases on the basis that they were Scottish Government policy instruments. The idea of needing more political will or courage to do things differently therefore seems achievable given that the government have control of these instruments, unlike more public-private hybrid or market instruments. One participant emphasised the importance of joint ownership of policy instruments to ensure common aims and objectives across the Scottish Government Directorates (KTIF).

The Scottish Government was responsible for designing the instruments, always in consultation with agencies and other stakeholders. Stakeholder consultations were explicitly part of the development and evolution of WEF, CAR, and CSGN. However, there were differences in opinion about how actively involved other stakeholders including the agencies were in the process, from some cases with a very close partnership (e.g. CAR) to other cases where participants perceived there was less ability or willingness to respond to consultees (e.g. GAEC). There seems to be a huge amount of effort expended by Scottish Government to communicate and consult internally (within the government) as well as between government and other stakeholders (LFASS, GAEC, KTIF, PAN51). One participant noted that this effort “is not always visible to the beneficiaries [of the scheme]”. It was only through the interview process that we became aware of these alignment activities, as there is limited detail provided in public documentation.

In most cases, the instruments are implemented through Scottish Government and its agencies (SEPA, SNH, RPID), and in one case, other “third party” delivery organisations is used (SAC consulting). As with the design process, whilst the main organisation responsible for implementation is the public sector, the data confirmed that actually using these instruments ‘on the ground’ requires working in partnership with a wider range of organisations and individuals ranging from local authorities to individual farmers, business owners or housing developers. Therefore, the Scottish Government has the power to direct their agencies; and agencies can enforce compliance with statutory instruments (e.g. CAR, NHR, GAEC) but in most of our cases (BAFLB, KTIF, FFBC, PAN51, CSGN, WEF), the agencies are focussed on steering activities by other actors over whom they have limited authority. As discussed under challenges (and changes needed), ensuring sufficient awareness and uptake by the right people at the right time is an ongoing environmental governance issue across the globe.

Whilst the above responsibilities (designing and implementing the instruments) were clear, there was less clarity on the responsibility for monitoring. This is also supported by the fact that information about the process of monitoring was often hard to find in the documents we analysed; and highlighted as a challenge or required change by most participants. One participant indicated that there was a lack of coordination due to no monitoring (CAR), which indicates that coordination and collaboration could be enabled through more ‘joined-up’ approaches to collective monitoring and evaluation of outcomes. Another participant emphasised the need to invest in a longer-term monitoring strategy to cover changes that take many years or decades to achieve (BAFLB): “I think one of the things with monitoring is that everybody wants the answer yesterday. We have to either take into account it’s going to be a long time before we know the answers or...and with that there’s a certain leap of faith that as long as people have done the right things to go in the right direction then we should accept that.”

3.3.4. Opportunities

Many participants felt the current overall approach to environment management was positive. This was partly due to the existing approach, using the mix of regulations, incentives and voluntary measures. It was also due to recognising that Scotland has an excellent science base and a strong understanding of how environmental systems work. Finally, there had been a welcome focus on improving engagement with farmers, particularly using farmer-to-farmer sharing of how to achieve business efficiency and environmental objectives. Therefore, the participants felt that Scotland was starting from a firm basis for any future changes.

Some interviewees, from both Scottish Government and agencies, believed the environment has a stronger profile than usual due to BREXIT and they welcomed the increase in political support for environmental protection. As the counter to one of the challenges identified above, the restriction on funding activities due to EU audit requirements, a number of Scottish Government participants identified a post-EU window of opportunity to develop new approaches to funding environmental improvements. Notwithstanding the concerns about complexity, the ability to redesign instruments to build towards delivery of multiple benefits was identified as an important opportunity. For example, “if you’re looking at all the different environmental instruments that we could do, then is it quite clear what they’re all supposed to be doing, so you would...at some point you work your way up as a pyramid don’t you, to some form of kind of...common goal what you want to deliver” (LFASS). This opportunity was often linked to an interest in focussing on environmental outcomes and adopting monitoring for this purpose (see changes needed above).

Some participants felt the focus on ensuring that environmental instruments supported the Scottish Government’s overall purpose of sustainable economic growth for opportunities for all was an important opportunity to seek ‘win-win’ solutions. A number of participants felt that linking how environmental outcomes provide economic value. This might be through providing higher quality natural resources to industry (e.g. tourism, whisky); avoiding costs in terms of remediating pollution or health implications – recognising increased well-being through using pleasant environments, or increased health problems from polluted environments. However, a few participants (particularly from the agencies) were ambivalent about the economic benefits approach and suggested that the trade-offs involved were not always easily resolved; and can be difficult to implement all in cases.

4. Concluding Discussion

As discussed in the introduction, this research wanted to identify if there were gaps in the delivery of multiple benefits and potential to increase the protection or restoration of natural assets. We are confident our conclusions reflect our understanding of the data at this point. However, given the pace of change likely to be faced in the next few years, these are *interim* findings as part of a longer discussion about potential opportunities for governing the environment as our relationship with the European Union changes.

Although the focus was on alignment within the environmental policy domain, the data and analysis often illustrates the interplay of environmental instruments with wider projects and partners seeking social and economic outcomes. Therefore, one conclusion is to reinforce the fact that policy alignment deals with complexity. With complexity comes challenges but also rewards. The skill is to find the balance whereby the improved outcomes outweigh increased difficulties.

Here we try to summarise the answers to our research questions:

- Are existing policy instruments delivering multiple benefits?

Our data suggest that most of our cases are delivering to more than one natural asset, but there are opportunities to do more, particularly in terms of protection of soil health, air quality or increasing habitat and biodiversity gains. There was more appetite to explore delivery for multiple benefits within voluntary than regulatory instruments. A number of our cases are also delivering social and economic benefits, either directly as part of their aims and objectives, or indirectly through

protecting natural capital required for industry and society. Again, whilst these are already ambitious objectives, there is the potential to deliver more.

- Are there opportunities for better alignment? Does this mean coordination or integration?

Despite concerns of some stakeholders, we found no evidence of conflict between instruments and plenty of efforts to provide a consistent message about investing in our natural assets. Our data suggest that there are layers of alignment. Many of our instruments are already aligning different sub-instruments, working within or across organisations, and linking up diverse stakeholders. Most instruments already have formally recorded lists of other instruments that they complement. There is considerable effort to avoid duplication or conflict but this is often invisible externally. Despite these existing efforts, our interviewees did identify opportunities for better alignment between instruments and between partners. The pressure on cross-compliance to achieve more for soil and climate change is noteworthy here. Whilst there was debate about the exact definition of coordination and integration, our data suggests that most participants were in favour of closer coordination, meaning deliberate but informal working together for common outcomes, but were less keen on formally integrating instruments or organisations.

- What are the challenges and opportunities for any shift?

Our data showed many of the common challenges to trying to achieve environmental outcomes through partnership working in economically constrained contexts. There were a number of challenges identified that mapped onto suggestions of changes. These changes include: Capacity building; Implementation change; Different focus (on other natural assets or other problems); Resources; Attitude; Change in instrument; and Better evaluation. However, whilst there are gaps to fill, and changes desired, participants also felt positive, identifying opportunities. Many felt that there were already strong relationships between the main actors (Scottish Government and their agencies) and there was an increasingly business friendly approach that is helping increase engagement with land and urban businesses. Surprisingly, whilst Brexit was seen as creating uncertainty, it was also seen as an opportunity to reflect and realign and also to champion the importance of the environment to Scotland.

Although the data are rich and robust, we recognise that the results may reflect the specific cases selected or those available to talk to us during the interview phase of the research. Furthermore, in attempting to find the common messages, we were not able to do justice to the detailed information about how individual instruments function and, as outsiders to the policy cycle, we recognise that we risk oversimplifying the difficulties in developing, implementing and evaluating policy. However, we believe this analysis does provide a useful catalyst to discussions regarding what Scottish environmental or land use policies could deliver; and how these policies could be further refined or evolved in the future.

Many participants felt the current overall approach to environment management was positive. This was partly due to the existing approach, using the mix of regulations, incentives and voluntary measures. Whilst there are areas for improvement, there seemed to be a great deal of effort being expended to ensure alignment and to avoid conflicts. Participants noted how previous policy conflicts have been identified, resolved and processes put in place to avoid these occurring in the future. The trend towards more engagement with farmers to develop a culture of business efficiency

and environmental benefits was also seen as a way to deliver multiple benefits whilst overcoming the perception that policy conflicts exist. Therefore, the participants felt that Scotland was starting from a firm basis for any future changes.

5. Next Steps

The main messages from this work were presented to Scottish Government and Agency stakeholders attending a Soil Engagement Group workshop on 16th April 2018. The combined feedback from our research participants and the workshop has been used to finalise the report and further develop the executive summary. In the few cases where we did not manage to speak to either the Scottish Government or the implementing agency about one of our cases, we will also seek to meet with them to discuss the material and its implications for current policy and potential policy development in the future. The material will be further analysed from an academic perspective for publication in a scientific journal and disseminated at academic conferences.

We will also use this material to consider how best to move into the next phase of the research regarding delivering the protection and enhancement of natural assets. We will be considering any gaps highlighted; and whether new types of instruments could be used to fill them. We will be engaging with the main organisations, as well as relevant consultants and non-governmental organisations working in this area, to consider how these policy instruments might work with, or be supported by, instruments developed and implemented by the public or third sector. Feedback on these plans would be extremely valuable – please contact Kirsty.Blackstock@hutton.ac.uk.

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