

Natural England Commissioned Report NECR254

Evaluation of the Upland Ecosystem Service Pilots: Synthesis Report

First published 10th September 2018

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Foreword

Natural England commission a range of reports from external contractors to provide evidence and advice to assist us in delivering our duties. The views in this report are those of the authors and do not necessarily represent those of Natural England.

Background

The Upland Ecosystem Service Pilots were developed as demonstration projects to understand how the ecosystem approach could be applied in practice. Evaluation helps us to understand what's working and what needs improving in order to inform future policy and delivery. This report is a synthesis evaluation of all three Pilots (located in Bassenthwaite Catchment in the Lake District, the South Pennines and South West Uplands) and is accompanied by evaluations of each pilot, provided as annexes to this main report.

Lessons learnt from this evaluation are relevant to the development and implementation of new environmental and conservation policy and practice, including implementation of Natural England's Conservation Strategy and the government's 25 Year Environment Plan, especially the development of local natural capital plans. The findings from are relevant because the pilots:

- Focussed on natural capital and ecosystem services, exploring the benefits provided from a place.

- Provide an example of partnership projects developing a shared mapped evidence based and delivery plans at a landscape scale.
- Involved a wide range of stakeholders in their collaborative development, including farmers, land owners, water companies, environmental organisations, National Parks, private businesses and local people.

The pilots pioneered the application of the ecosystem approach in a place. They explored: understanding how the natural environment functions and underpins our well-being; involving people in decision making and valuing the benefits that we get from the natural environment.

Nationally the work has contributed to the further development of work on the ecosystem approach including, for example, through the development of the Ecosystem Approach Handbook, mapping ecosystem services and natural capital, further work on place-based payments for ecosystem services, informing the work of the Defra Pioneers.

This report should be cited as: Kirkup. B. and Maiden. T. 2018. Evaluation of the Upland Ecosystem Service Pilots: Synthesis Report. *Natural England Commissioned Report, Number 254.*

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Keywords – Evaluation; ecosystem services; natural capital; landscape scale delivery; ecosystem approach; ecosystem services assessment; collaborative working; place-based approach

Further information

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ISBN 978-1-78354-498-1



Evaluation of the upland ecosystem services pilots

SYNTHESIS REPORT

Natural England

Evaluation of the upland ecosystem services pilots – synthesis report

A final report by CAG Consultants

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CONTENTS

Executive Summary	8
Introduction	8
Key findings	8
What are the key outcomes from each pilot?	8
What are the key differences across the areas in terms of approaches and impact and why?	9
How important were participatory ways of working in achieving stated aims in each area?	9
How important were existing partnerships in each area in driving forward actions and additional stakeholder involvement?	10
What lessons can we learn in terms of evaluating the pilots?	10
How were environmental outcomes captured in each area? What mechanisms were (in place/put in place) to achieve these?	11
What was the role of economic valuation in the three areas? To what extent did it help to inform decision making?	11
Conclusions	12
To provide practical examples demonstrating how the ecosystem approach could be applied on the ground.	12
To use a consultative ecosystem approach to define land and water management based upon stakeholders' perceptions of the best options.	12
To demonstrate that investment in the natural environment can result in multiple benefits (carbon, water, food, biodiversity, recreational and landscape benefits).	13
To work in partnership to deliver a range of ecosystem services in a cost-effective way and link these services to the beneficiaries.	13
1 Introduction	14
Introduction to the pilots	14
2 Method	18
Evaluation of the individual pilots	18
Method for the synthesis report	18
Research Ethics	19
Challenges and limitations	19
Time elapsed between completion of project and evaluation	19
Inconsistent approach to the presentation of project documentation	20
Limited size of qualitative sample	20

3 Findings	21
What are the key outcomes from each pilot?	21
Localised outcomes.....	21
National impact.....	22
Key findings and lessons learnt	22
What are the key differences across the areas in terms of approaches and impact and why?	23
Inputs	23
Spatial scales	24
Focus area units.....	25
Key findings and lessons learnt	25
How important were existing partnerships in each area in driving forward actions and additional stakeholder involvement?	26
Key findings and lessons learnt	26
How important were participatory ways of working in achieving stated aims in each area? .	27
Key findings and lessons learnt	28
What lessons can we learn in terms of evaluating the pilots?.....	30
Key findings and lessons learnt	32
How were environmental outcomes captured in each area? What mechanisms were (in place/put in place) to achieve these?	32
Key findings and lessons learnt	33
The role of economic valuation in each pilot.....	34
Key findings and lessons learnt	34
4 Conclusions	36
To provide practical examples demonstrating how the ecosystem approach could be applied on the ground.....	36
To use a consultative ecosystem approach to define land and water management based upon stakeholders' perceptions of the best options.....	37
To demonstrate that investment in the natural environment can result in multiple benefits (carbon, water, food, biodiversity, recreational and landscape benefits).....	38
To work in partnership to deliver a range of ecosystem services in a cost-effective way and link these services to the beneficiaries.	39
Partnership working.....	39
Summary	40
5 References.....	41
Appendix A: Ecosystem Approach Principles (Convention on Biological Diversity)	42

Appendix B: A list of initiatives, reports and other products that have been informed by the pilots 45

Executive Summary

Introduction

Between the summer of 2009 and March 2011 Natural England ran three upland ecosystem pilots in order to demonstrate how the principles of the 'ecosystem approach' could be applied in practical land management settings. At that time, the ecosystem approach was not widely understood and the pilots were therefore breaking new ground.

Upland environments were felt to be the most appropriate for piloting the ecosystem approach because they provide a suite of easily recognised and valuable ecosystem services (for example, carbon storage, water supply, timber, food and recreation). The selected pilot areas were Bassenthwaite (in the Lake District National Park), the South Pennines and the South West Uplands.

The pilots were intended to improve Natural England's understanding of the practicalities of adopting the ecosystem approach and ultimately to encourage its adoption by other land management professionals. They were intended:

- To provide practical examples demonstrating how the ecosystem approach could be applied on the ground.
- To use a consultative ecosystem approach to define land and water management based upon stakeholders perceptions of the best options.
- To demonstrate that investment in the natural environment can result in multiple benefits (carbon, water, food, biodiversity, recreational and landscape benefits).
- To work in partnership to deliver a range of ecosystem services in a cost-effective way and link these services to the beneficiaries.

Individual evaluation reports, which assess the extent to which the pilots achieved these aims, have been prepared for each pilot. This report synthesises the key learning points from these three reports and reflects on the lessons that might be learnt by comparing and contrasting their experiences.

Key findings

Natural England set a series of high-level research questions for this report. Key findings are reported below, using these questions as sub-headings.

What are the key outcomes from each pilot?

Outputs and outcomes varied widely between the pilots. The reasons for this are explored in the following sections, but relate largely to local circumstance. The most significant direct legacies of the pilots appear to have been:

- The valuation work undertaken by the South Pennines pilot.
- The provision of a successful practical demonstration of a participatory approach to identifying and prioritising ecosystem services – subsequently leading to land management change - in the Bassenthwaite pilot area.

All of the pilots were reported as having played an important formative (both direct and indirect) role in developing the regional 'conversation' around the ecosystem approach and the development of successor projects in their localities. Whilst the evaluation did not focus on the issue of national impact we found that the pilots also appear to have had a significant positive effect on national thinking and policy, primarily in relation to ecosystem services, the ecosystem approach and, more recently, to thinking and practice in relation to the natural capital approach.

What are the key differences across the areas in terms of approaches and impact and why?

The Bassenthwaite pilot developed the most effective and coherent partnership and was the most successful in terms of performance when assessed against Natural England's expectations. Activity in the South West pilot was reported as being hampered by disagreements between partners as to the focus of the project and it is clear that both the South West and South Pennines struggled with the size and geographic and administrative complexity of their respective areas. Notably, both of these pilots reported that a shortage of project officer time had been a constraint; although both had, at least in theory, more officer resource dedicated to them than the Bassenthwaite pilot. The South West and, to a lesser extent, the South Pennines pilots both also reported difficulties in securing partner buy-in.

The most likely reason for the reported differences between the pilots are considered to be contextual. The South Pennines and South West pilots covered much larger areas than Bassenthwaite and encompassed multiple administrative boundaries. Whilst it was intended that the projects should be embedded within existing local partnership structures, in practice this did not happen, in part again owing to the size and complexity of the pilot areas. We would suggest that the complexity and relative unwieldiness of these pilots, coupled with partners reported unfamiliarity with the ecosystem approach, may have been the root cause of many of the difficulties experienced by these pilots. In contrast, the Bassenthwaite pilot enjoyed the advantages of being hosted within an existing partnership, with a clear remit and focused on a project area that pilot partners recognised as a functional land management unit. This issue is explored in greater detail in the next section.

How important were participatory ways of working in achieving stated aims in each area?

The Bassenthwaite pilot benefited from being able to build on an existing multi-stakeholder catchment-based approach centred on Bassenthwaite Lake. In the South Pennines, although there was an existing partnership covering the pilot area, its remit and interests did not encompass all of the principal, locally available, ecosystem services and this constrained its ability to engage with the pilot. In the South West there was no history of partnership working, on land management planning, at this scale.

The context for the Bassenthwaite pilot (particularly its history of partnership working) and its design and resourcing enabled meaningful participation at each key stage of the decision-making process, and it is clear that this was key to securing buy-in and ensuring impact. The evidence suggests that to achieve the level of engagement in the South Pennines and South

West as was achieved in Bassenthwaite, would have required considerable additional time and resource.

The pilots illustrate the importance of engagement in securing buy-in, particularly with those who will be directly involved in delivery. They also illustrate however, a 'catch 22' – how to incentivise the involvement of stakeholders (particularly those with shorter-term horizons) when the outcomes and potential benefits are unclear until the project is well developed. The experience of the three pilots indicates that this may be addressed through factors such as:

- A more focused geography, so that the connections between services and beneficiaries are more direct and easily understood.
- Clearly articulating the ecosystem approach in ways which can be appreciated and understood by all stakeholder groups.
- Tailored consultation, recognising that stakeholder groups are rarely homogenous and have different needs and working styles.

How important were existing partnerships in each area in driving forward actions and additional stakeholder involvement?

Only in Bassenthwaite was the pilot integrated within the governance structure of an existing partnership - the Bassenthwaite Lake Restoration Programme (BLRP). Although wider relationships had to be established, many key partners became involved via this arrangement. The BLRP was also used to hosting pilot projects and thus had previous experience of collaboration on the exploration of new ideas and ways of working. The experience of the BLRP, and the strength of existing relationships, appears to have enabled the Natural England project officer to act as a facilitator and catalyst rather than a leader.

The other two pilots were not embedded in a local partnership governance structure. In the South West the South West Uplands Federation (SWUF) does not appear to have played a significant role in supporting the pilot. In the South Pennines, Pennine Prospects provided support to the pilot, but lacked the geographic focus and technical expertise of the BLRP. One result of this is that these pilots were more reliant on the capacity and capability of local Natural England project staff and inputs from national programme staff (than the Bassenthwaite pilot). The value of hosting pilots within strong partnerships, with closely aligned aims and objectives, would seem to be a key learning point from this programme.

What lessons can we learn in terms of evaluating the pilots?

The evaluations of the individual pilots were primarily process evaluations and heavily reliant upon the ability of interviewees to recall their experience of the project. This being the case the delay between the cessation of pilot activity (end of March 2011) and the evaluations (2017/18) was too long.

However, one unplanned benefit of this delay was that more information was available regarding the impact of the pilots. This demonstrates the value of multiphase approaches to evaluation. In relation to the pilots, the delay between the completion of the projects and the evaluation of outputs and outcomes allowed the research team to identify a number of outputs and outcomes.

A key lesson for future evaluations is that consideration should be given to evaluation and monitoring needs at the commencement of any similar programme, particularly innovation projects where learning points are the most important output. Ideally, the pilots would have developed a monitoring and evaluation framework and identified and agreed a standard set of data collection protocols at the start of the project management cycle. In this instance we are aware that the project budget was limited and would suggest that future projects ensure sufficient provision is allowed for monitoring and evaluation purposes.

How were environmental outcomes captured in each area? What mechanisms were (in place/put in place) to achieve these?

There is no empirical evidence of environmental outcomes being delivered through, or as a result of, the South West and South Pennines pilots. It seems likely that some benefits may have been indirectly delivered through legacy projects and projects informed by these pilots, but this has not been substantiated.

The Bassenthwaite pilot was able to identify land management changes, intended and expected to lead to specified outcomes, and to attribute these to the activities of the pilot. The delivery mechanism for benefits was the environmental stewardship agri-environment programme.

What was the role of economic valuation in the three areas? To what extent did it help to inform decision making?

The economic valuation work conducted was innovative and challenging. Key challenges were:

- Developing a methodology in the absence of a pre-existing model.
- Collating the necessary data on the links between economics and land management. This was particularly the case where some of the data (for example, some water company data) was considered commercially sensitive.
- Securing the necessary time inputs from partners, particularly given the complexity of the process.

Some of these challenges relate to other key issues in this report. For example, geography and spatial scale. The South Pennines, which undertook the most in-depth and complete work on valuation, was enabled to make progress on this work as a result of local partner interest and support (in particular from local water companies) and a decision to confine their focus on two catchment areas for which the relevant data was more readily available. These factors in turn led to Natural England prioritising this pilot for support from their national economists.

The key learning point from the pilots is that economic valuation is challenging and resource- and data-intensive, particularly if it is to be carried out as a participatory process. This needs to be planned for in terms of time, skills and level of ambition. The feasibility of economic valuation, particularly if it is to be conducted as a participatory process, will be impacted by the location and spatial scale chosen.

Conclusions

As noted in the introduction Natural England described four aims for the upland ecosystem pilots; summary assessments of the extent to which the pilots delivered against these aims follow.

To provide practical examples demonstrating how the ecosystem approach could be applied on the ground.

When considered collectively there is considerable evidence to support the view that the three upland ecosystem pilots have provided useful practical examples of how to apply the ecosystem approach 'on the ground'.

Learning from the pilots appears to have provided a focus for discussion and for having moved forward regional discussion on the ecosystem approach. More tangibly each pilot appears to have left some form of legacy as catalysts of, and formative influences on, successor initiatives.

At a national level the pilot's influence can be clearly seen in a number of reports, tools and other outputs that have drawn on learning from the programme (see Appendix B). Interviews with national Natural England staff indicate that the pilots continue to provide useful learning. For example, lessons learnt from the South Pennines pilot's work on valuation were reported as having been useful in informing Defra's natural capital focused Pioneer Projects.

It should be acknowledged that none of the pilots delivered all of their planned outputs, and only one was able to provide evidence of a clear impact on land management practices, but one reason for this appears to have been the ambitious nature of the pilots, something remarked on by a number of project participants.

To use a consultative ecosystem approach to define land and water management based upon stakeholders' perceptions of the best options.

In Bassenthwaite a consultative approach clearly underpinned the work of the pilot, with this being pursued primarily through a series of interactive stakeholder workshops. In the South Pennine's pilot, considerable initial consultation took place, and this is likely to have informed the delivery plan. However, in the later stages of the pilot very little consultation took place and the delivery plan was eventually drawn up by Natural England staff, and as a result was not 'owned' by pilot partners. The South West pilot, although successful in securing early engagement with some key stakeholders, found it difficult to secure agreement amongst the partners and did not get to the stage of defining land and water management objectives.

In the main engagement was most effective and sustained with stakeholders from the environmental, agricultural and land management community. Efforts were made to engage with a wider audience, but overall there was limited evidence of success although the Bassenthwaite pilot was reported as having been effective in securing some level of engagement with the tourism sector. Given that the focus of the pilots was informed by local stakeholders it is possible that some types of ecosystem services received less attention

than they warranted owing to the absence of representation within the pilots governance systems.

One issue that emerged strongly in the South West pilot was the focus of some partners on enabling the continuation of upland farming system, by developing new mechanisms for paying them to deliver ecosystem services. It is not clear how important a point this is, but it is suggested that if such an approach were to be widely pursued this might prevent the development of optimal approaches to ecosystem service delivery.

To demonstrate that investment in the natural environment can result in multiple benefits (carbon, water, food, biodiversity, recreational and landscape benefits).

The programme demonstrated, in theoretical terms, that a targeted investment in the natural environment can generate multiple benefits. Both the Bassenthwaite and South Pennines pilots developed delivery plans containing land management actions which identified opportunities for enhancing the provision of multiple ecosystem services. In the South West pilot, although no delivery plan was produced, draft assessment work was conducted which illustrated a range of benefits which could be delivered by different land management actions.

Overall, the programme provides a useful example of how investment in the natural environment might be targeted to secure desired ecosystem services. However, the pilots clearly highlighted that quantifying such benefits in economic terms is challenging and resource- and data-intensive. Thinking and practice has moved on since the pilots – and been informed by them – but the resource-intensive nature of valuation in particular should be taken into account in any future initiatives.

To work in partnership to deliver a range of ecosystem services in a cost-effective way and link these services to the beneficiaries.

The pilots were intended to be locally led and to build upon existing partnerships and networks. Each pilot invested heavily in work to engage partners, but experienced varying degrees of success. Partnership working was found to most effective in the Bassenthwaite pilot. This was facilitated by a pre-existing partnership and its focus on a single catchment.

In both the South West and South Pennines it was reported that the pilot areas were not recognised as functional land management units by partners, and the pilots were hindered by the scale and administrative complexity of the pilot areas. In both the South West and South Pennines pilots partners ended up focusing on discrete sub-pilot areas. This suggests that the pilots may have been more successful had their boundaries been more closely aligned to partner administrative boundaries and, or, to one or more discrete, functional land management units, likely to be of interest and relevance to partners.

1 Introduction

Introduction to the pilots

- 1.1 Between the summer of 2009 and March 2011 Natural England ran three upland ecosystem pilots in order to demonstrate how the principles of the 'ecosystem approach' could be applied in practical land management settings. At that time the ecosystem approach was not widely understood and the pilots were breaking new ground.
- 1.2 Natural England elected to establish all three pilots in upland areas as, whilst recognising the potential for wider application of the ecosystem approach, it was felt that certain characteristics of upland environments made them particularly suitable as pilot sites:

'Upland environments provide a suite of easily recognised and valuable ecosystem services (for example, carbon storage, water supply, timber, food and recreation.' (Waters, and others 2012)

- 1.3 The selected pilot areas were Bassenthwaite (in the Lake District National Park), the South Pennines and the South West Uplands (see Figure 1).



Figure 1 Location of Uplands Ecosystem Pilots (Waters and others 2012)

1.4 The pilots were intended to improve Natural England’s understanding of the practicalities of adopting the ecosystem approach and ultimately to encourage its adoption by other land management professionals. The ecosystem approach (see Appendix A) is defined by the Convention on Biological Diversity as being:

‘a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way.’

1.5 The pilots were managed and supported by a national programme team from Natural England. This team consisted of a programme manager and project manager. Natural England economists provided additional expert technical input on valuation.

1.6 Natural England staff were appointed to support the pilots. In line with the principles of the ecosystem approach the pilots were intended to be led by local stakeholders, although Natural England anticipated that they would follow a similar development path (see Figure 2).

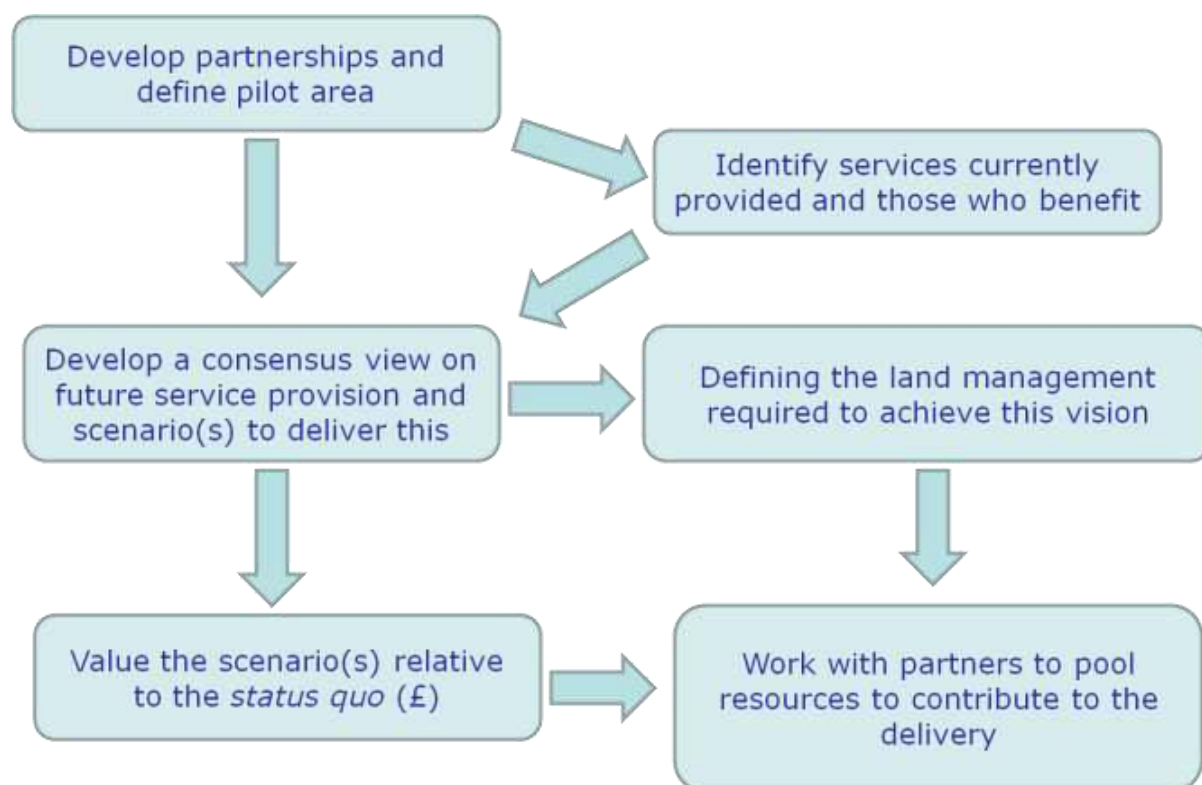


Figure 2 Project steps that each pilot was expected to follow (Waters and others 2012)

1.7 At the commencement of the programme, Natural England anticipated that the pilots would involve two stages of activity.

- Stage 1: Supported by a project officer and intended to culminate in the development of a shared integrated delivery plan (18 months); and
- Stage 2: An implementation stage during which partners in the pilot would jointly implement the delivery plan.

- 1.8 In practice pilot activity ceased in the South West and South Pennine pilots at the end of Stage 1 (March 2011), although some projects documents were not finalised until after this point.
- 1.9 At the end of the Bassenthwaite Pilot the task group ceased, but the Bassenthwaite Lake Restoration Programme partnership refreshed its vision to incorporate the work of the Pilot and adjusted its focus to encompass the delivery of multiple ecosystem services. Subsequently Natural England staff took forward some implementation work (identified during the pilot) through their work with the BLRP and the River Derwent and Tributaries SSSI Restoration Group (which was closely associated with the BLRP rivers group). This activity included working with agri-environment advisers on scheme targeting and working on an unsuccessful (runner-up) Nature Improvement Area bid for Bassenthwaite and Ullswater catchments; this ultimately led to a farmer-led Cumbria Connections Project
- 1.10 The aims of the pilots (as set by Natural England) were:
- To provide practical examples demonstrating how the ecosystem approach could be applied on the ground.
 - To use a consultative ecosystem approach to define land and water management based upon stakeholders perceptions of the best options.
 - To demonstrate that investment in the natural environment can result in multiple benefits (carbon, water, food, biodiversity, recreational and landscape benefits).
 - To work in partnership to deliver a range of ecosystem services in a cost-effective way and link these services to the beneficiaries.
- 1.11 Individual evaluation reports, which assess the extent to which the pilots achieved their aims, have been prepared for each pilot. CAG Consultants produced the reports for the South West and South Pennines pilots; the evaluation of the Bassenthwaite pilot was undertaken by Natural England staff. This report synthesises the key learning points from these three reports and examines them within the context of the programme as a whole. In doing so it seeks to address the following research questions:
- 1) What are the key outcomes from each pilot?
 - 2) What are the key differences across the areas in terms of approaches and impact and why?
 - 3) How important were participatory ways of working in achieving stated aims in each area?
 - 4) How important were existing partnerships in each area in driving forward actions and additional stakeholder involvement? (Comparisons around governance in each area and what difference that made to outcomes)
 - 5) What lessons can we learn in terms of evaluating the pilots?
 - 6) How were environmental outcomes captured in each area? What mechanisms were (in place/put in place) to achieve these?
 - 7) What was the role of economic valuation in the three areas? To what extent did it help to inform decision-making?

1.12 The above list of questions has been used to structure the main section of this report (section 3).

2 Method

Evaluation of the individual pilots

2.1 As noted in the preceding section (paragraph 1.11) individual evaluations have been undertaken for each of the three pilots. Reporting for these evaluations was completed in January 2018. Each evaluation addressed the following research questions:

- 1) To what extent has the ecosystem approach and decision-making been applied at appropriate spatial scales?
- 2) To what extent did the pilot take into account the timescales needed for processes to implement the ecosystem approach?
- 3) To what extent did the participatory process influence the development of the Integrated Delivery Plan and achievement of outcomes?
- 4) To what extent did the pilot include evidence from a range of disciplines?
- 5) What aspects of partnership and governance enabled agreement on a shared plan and achievement of project outcomes?
- 6) To what extent did the pilot consider the need to understand and manage the ecosystem in an economic context?
- 7) To what extent did economic valuation inform the decision making?
- 8) What were the inputs to the Pilot in terms of staff time and funding, for Natural England (NE) and other partners
- 9) To what extent did the participatory process result in attitudinal & behavioural change?
- 10) To what extent did the Delivery Plan influence the environmental outcomes?

2.2 The research for each evaluation included a combination of semi-structured interviews, conducted with the key partners and stakeholders from each pilot, and an in-depth review of project documentation. The latter included internal communications and update reports as well as publicly available information. Insights generated from both strands of research were coded against the research questions and then cross-referenced, to provide responses to the evaluation questions and to identify the key lessons learned. More detail on the approach to evaluation can be found in the individual pilot reports.

Method for the synthesis report

2.3 The evaluations of the individual pilots formed the main source for this report. Each report was reviewed and information contained in the report coded against the research questions (see paragraph 1.11).

2.4 As part of the research for the South West and South Pennines pilots, CAG undertook four semi-structured interviews with Natural England staff involved in the management and operation of the Upland Ecosystem Services Pilots programme. These interviews were guided by a topic guide which was designed to explore the similarities and differences between the three pilots. These interviews were also coded against the research questions.

- 2.5 Following the coding exercises, information from the review of the pilot evaluation reports and the interviews were cross referenced with a view to identifying key themes, insights and lessons learned.

Research Ethics

- 2.6 All research was conducted in accordance with the principles of Government Social Research (GSRU, undated). In summary these require that all research undertaken for UK Government organisations should ensure:

- Sound application and conduct of social and market research methods.
- Appropriate dissemination and utilisation of findings.
- Participation based on valid consent.
- Enabling participation.
- Avoidance of personal harm.
- Non-disclosure of identity and personal harm.

Challenges and limitations

- 2.7 The synthesis of the evaluation reports presented no challenges to the research team per se. However, those involved in the evaluations of the individual pilots had to contend with a number of challenges and limitations and these in turn have impacted on the synthesis report. These challenges are described below.

Time elapsed between completion of project and evaluation

- 2.8 This evaluation was conducted more than six years after the completion of pilot activity. This posed particular challenges for the qualitative research as the evaluation was primarily a process evaluation and intended to investigate 'how the pilots worked'. In practice some potential respondents being unavailable for interview and many of those that were available finding it difficult to recall the pilots in any detail. Several noted that there had been a number of other initiatives around at that time (and since) and that this meant they were not always sure that, when recalling their experience of the partnership, they were not confusing it with another initiative. The overall impact of this was that responses to interview questions tended to focus on respondents' general impressions and experiences of the pilots, and to be light on details, for example in terms of their recollections of decision-making processes.
- 2.9 The passage of time has also made it difficult to consider the counter-factual, that is, what would, or might, have happened in the absence of the pilot, in a meaningful way. As noted above interview respondents reported the existence of multiple other initiatives and reported that some of these were informed by or based, at least to some extent, on the ecosystem approach. It was also reported that the ecosystem approach has been popularised via technical articles and other media in the years since the completion of the pilot. The net result of this is that respondents were unable to be clear on the extent to which some of the reported project outcomes could be attributed to the pilot.

Inconsistent approach to the presentation of project documentation

- 2.10 An extensive range of documentation was made available for review. This provided considerable useful detail although the records were inconsistent in their approach and often failed to record key details. For example, whilst decisions were recorded in workshop reports, they did not always record why a decision had been made or how. Other inconsistencies included: the name of the author was not included on all documents; records of attendees were not recorded for all meetings; and some dates were missing.
- 2.11 Another key challenge was that the documentation did not provide a complete project narrative. For example, the outcomes of actions agreed in a workshop or meeting were difficult to track and in some cases references to an agreed activity subsequently disappeared from the project record.
- 2.12 The absence of a clear project narrative and record of activity means that it has not always been possible to provide a clear picture (in the evaluation) of what did and did not happen and why.

Limited size of qualitative sample

- 2.13 As noted in paragraph 2.8, a number of potential interview respondents were unavailable for interview. In some cases, individuals had retired or moved into other organisations (in the period since the completion of the project). In other cases, potential respondents indicated that they did not wish to participate in the interview, suggesting that too much time had elapsed. This meant that fewer respondents were interviewed than originally planned, reducing the range of views available to the researchers.

3 Findings

What are the key outcomes from each pilot?

3.1 In this section we consider the key outcomes from each pilot, with the focus being on changes in thinking and practice that can be attributed to the pilots.

Localised outcomes

- 3.2 Some partners involved in the South West and Bassenthwaite pilots suggested that the pilots had helped to focus attention on the ecosystem approach at a time when many regional stakeholders were just becoming aware of this concept. Whilst in both cases it was noted that the pilots were not the only driver of interest in the ecosystem approach, they were reported as having been important in stimulating interest and generating local debate and activity.
- 3.3 The impact, on thinking and attitudes, of the pilots was reported as having been persistent and enduring amongst partners in the Bassenthwaite pilot. There was less evidence of such a legacy amongst partners in the South West pilot, but one interview respondent noted that since the completion of the pilot they felt they had seen a more ecosystem services focus to land management being reflected in documents produced by some regional stakeholders – something the respondent attributed, in part, to those stakeholders having been involved in the pilot.
- 3.4 In both the South West and the South Pennines pilots interview respondents suggested that the most tangible form of legacy could be seen in the form of post-pilot activity, which had either been catalysed or informed by the pilots. In the South West reference was made to the Dartmoor Farming Futures project – an on-going farmer led project that is testing new approaches to payments for ecosystem services. Participants in the South West pilot also referred to the pilot's work in the Barle and Wimbleball catchment, which subsequently helped to inform what became the Wimbleball Catchment Project.
- 3.5 In the South Pennines it was reported that the work of the pilot had helped inform the Watershed Landscape Project. Whilst the valuation work was identified as having helped to inform several small-scale post pilot initiatives; one organisation noted that they now routinely factored the ecosystem approach into their investment decisions and reported that this approach had been informed by pilot activity.
- 3.6 The work of the Bassenthwaite pilot was also identified as having had a catalytic effect and to have been an important foundation stone in a number of subsequent and current projects. Interview respondents noted that current work on flooding, natural capital assessment and the work of Cumbria Connections – an integrated social, economic and environmental delivery project for farmers – had all built on the work of the pilot. The Bassenthwaite pilot was also identified as having delivered some changes in land management, with a view to securing targeted ecosystem service delivery. This issue is addressed in more detail in a later section.

National impact

- 3.7 The interviews with Natural England staff, who were involved with the pilot programme at the national level, indicate that in addition to the localised impacts the pilots also influenced national thinking and practice. Natural England identified a range of initiatives, reports and tools that had been informed by the work of the pilots (see Appendix B). In addition they noted that national programme staff had been invited to deliver multiple formal and informal presentations, and observed that they felt that these had helped to inform the thinking and practice of organisations such as Natural Resource Wales and the Scottish Government.
- 3.8 Whilst it was reported, by interview respondents in all pilots, that discussions about natural capital¹ had now largely displaced consideration of the ecosystem approach it was reported that learning from the pilots remained relevant. For example, it is understood that the work on valuing ecosystem services which was carried out in the South Pennines pilot has helped to directly inform the development of Defra's natural capital focussed Pioneer Projects.

Key findings and lessons learnt

- 3.9 Outcomes varied widely between the pilots. The reasons for this are explored elsewhere in this report but relate largely to local circumstance. The most significant direct legacy of the pilots appears to have been the valuation work undertaken in the South Pennines and the demonstration of partnership work, leading to tangible environmental outcomes, as a result of the practical application of the ecosystem approach, in Bassenthwaite.
- 3.10 All of the pilots were reported as having played an important formative (both direct and indirect) role in developing the regional 'conversation' around the ecosystem approach and the development of successor projects in their localities. Whilst it is difficult to attribute the extent and nature of the pilots impact, we recorded multiple examples of initiatives that had been influenced, in some way, by the pilots and some of these, for example Dartmoor Farming Futures, are now recognised as important initiatives in their own right.
- 3.11 As a programme the pilots appear to have had a significant positive effect on national thinking and policy, primarily in relation to the ecosystem approach, but also, more recently, to thinking and practice in relation to the natural capital approach. A major reason for this appears to be due to the fact that the pilots were breaking new ground and therefore provided a unique source of insight.
- 3.12 In most cases, outcomes were reported as having followed the completion of the initial, 18 month project officer supported, stage of activity. This perhaps speaks to the nature of pilot projects which can be slow to gain traction and, owing to their potential for disrupting 'business as usual', can be treated with caution by stakeholders. It also emphasises the need for monitoring and impact evaluation activity post completion of

¹ The natural capital concept, like the ecosystem approach, is based on the natural environment providing multiple ecosystem services and benefits to people.

a project, if a pilot's impacts are to be captured and understood. The latter issue is discussed in greater detail later in this report.

What are the key differences across the areas in terms of approaches and impact and why?

3.13 Many of the key differences between the pilots are explored in other sections of this report. For example, their approach to participation, the importance of existing partnerships and their use of economic valuation. Differences in relation to these aspects are not repeated here. The focus here is on key differences in relation to:

- Inputs to the pilots.
- Pilot spatial scales.
- Focal land management units.

Inputs

3.14 The pilots benefited from the support of Natural England's national programme team; additional national support was provided by Natural England economists. Each pilot was assigned a regional Natural England project officer to co-ordinate and facilitate project activity, but it was expected that projects would be led by local stakeholders. Natural England also provided some direct funding, for example, for workshop facilitation and for additional research to support the work of each pilot. Stakeholder organisations made a range of direct (for example, match funding for research) and in-kind (for example, staff time) contributions. It has not been possible to map the inputs to each pilot in detail but some key differences between the pilots have emerged from the research.

3.15 The level of time input from the project officer varied across the three pilots. It was intended that the South Pennines and South West pilots would both have a full time project officer whilst the Bassenthwaite pilot would have a 0.5 full time equivalent (FTE) post. In practice it was reported that project officer time in the South West was as little as 0.3-0.5 FTE, although other local Natural England staff were also reported as having invested time in the project. Insufficient project officer resource was cited as a constraint by some stakeholders in the South West and South Pennines, and in the South West some interview respondents reported that they felt that Natural England staff had been unable to 'sell' the pilot. Despite having less resource neither of these issues were reported by participants in the Bassenthwaite pilot

3.16 One reason for this difference may have been that the Bassenthwaite pilot was building directly onto an existing partnership with a discrete geographic focus. In both of the other pilots the areas covered by the pilots were much larger, encompassed multiple administrative boundaries and lacked a pre-existing partnership with such a clear geographic focus. These issues are explored in more detail elsewhere in this report 3.19.

3.17 The pilots received different levels of input from economists at Natural England, which significantly impacted on their ability to complete the economic valuation exercise. This

aspect of the process was novel and proved to be more resource-intensive than originally anticipated. A decision was therefore made to focus support on the South Pennines pilot, where there was significant support and interest amongst some local partners (water industry), and this impacted on the ability of the other two pilots to progress their economic valuation work. The impact of this on the outcomes of the pilots is unclear. A previous report by Natural England suggested that:

‘as understanding amongst the groups increased and people began exploring possible land use and land management options the importance they placed on economic valuation to inform decision making diminished (Waters and others 2012)’.

- 3.18 However, the report also recognised that this was partly driven by a sense among partners that the valuation process was too technical for them to engage with and that with more time and resources, a more participatory approach to valuation may have been feasible, which may have proved more valuable in informing pilot outputs.

Spatial scales

- 3.19 One aspect of principle seven of the ecosystem approach (Appendix A) is that it should be undertaken at the appropriate spatial scale (Convention on Biological Diversity, 2018). For the South West and South Pennines pilots, Natural England elected to base pilot areas on National Character Areas (NCAs). The South Pennines pilot area encompassed the South Pennines NCA (1,197 km²), whilst the South West pilot encompassed three NCAs (2,463.59km²). In contrast the Bassenthwaite pilot boundary was the catchment of Bassenthwaite Lake (within Cumbria High Fells NCA) and this was much the smallest of the three pilot areas (361.3 km²).
- 3.20 In practice the spatial scale of the two larger pilots proved to be a significant challenge. For example, in the South Pennines, stakeholders reported difficulties with the complexity of stakeholder interests and a lack of data. Securing stakeholder buy-in was found to be challenging in the South West, and the evaluation suggests that this may have been partly due to the scale of the pilot area and the inclusion of multiple stakeholders with conflicting needs and agendas.
- 3.21 These challenges stem not just from the size of the pilot area but also from the extent to which the areas functioned as a recognisable land management unit. The Bassenthwaite pilot area was a single catchment, with a settled boundary that had already been accepted by the existing Bassenthwaite Lake Restoration Programme (BLRP). As such it was easier for the pilot to secure buy-in and agreement from partners to joint working. In the South Pennines, some stakeholders did not consider the pilot area to be an ecological or cultural unit in any sense. In the South West, the pilot area spanned two separate geographies (and had originally planned to cover three). The complex political geography of the South Pennines and South West pilot areas (that is, the fact they did not align closely with the administrative boundaries of partner organisations) introduced complexity and in the case of the South West meant that the pilot partnership failed to engender any clear sense of shared purpose.

Focus area units

3.22 Each of the pilots involved an assessment of services and beneficiaries at the scale of the pilot area, as well as more focused work at a smaller spatial scale. The spatial 'units' adopted were different across the three pilots:

- In Bassenthwaite, most of the work was carried out at the scale of the whole pilot area. However, the delivery plan identified priority land holdings for achieving the key actions.
- In the South Pennines, the focus for delivery was on a small number (eventually two) of catchments.
- In the South West, the focus areas were two commons and associated farmland within Dartmoor National Park, and the Wimbleball Reservoir catchment.

3.23 In the case of the South Pennines and South West pilots, the selection of the focus areas and subsequent work within them proved challenging and time-consuming for various reasons, including a lack of readily available data (South Pennines) and competing partner interests (South West). The fact that the Bassenthwaite pilot provided a recognisably functional land management unit meant that it was able to move more swiftly into practical delivery.

3.24 In the South Pennines and South West, the more delivery-focused activity within the focus areas did not take place until very late in the project officer-led phase of the pilots and in neither case did this directly lead to any outcomes. The evaluation findings from the South Pennines pilot suggest that there was a need for greater clarity about the objectives, that is, what was to be delivered at the pilot area level and what was to be delivered at the catchment level, and for earlier clarity about the selection of the focus areas. Similarly, the evaluation of the South West pilot found evidence to suggest that the project might have benefited from a more restricted geographic focus. This is supported by the fact that two post-pilot initiatives – supported by or emerging from the pilot – which focused on small functional land units, were reportedly more successful in developing effective working partnerships.

Key findings and lessons learnt

3.25 In both the South West and South Pennines some partners reported a shortage of project officer resource as being a constraining factor. Both projects suffered delays particularly in finalising practical focus areas. It was also suggested, in the South West, that Natural England staff had been unable to secure partner buy-in to the pilot. Neither of these issues were reported as being challenges for the Bassenthwaite pilot.

3.26 It is possible that these findings may reflect differences in pilot project officer capacity and capability, but we would note that the context of the three pilots was markedly different. The size and geographic and administrative complexity of the South West and South Pennines pilot areas clearly posed challenges for pilot staff and their partners, not least perhaps because the pilot areas were not recognised by pilot partners as representing a functional land management unit.

3.27 In summary, it is not clear to us that the South West and South Pennines pilots met the ‘appropriate spatial scale’ principle of the ecosystem approach. We would suggest that the complexity and unwieldiness of these pilots, coupled with partners’ unfamiliarity with the ecosystem approach, may have been the root cause of many of the difficulties experienced by these pilots. In contrast, the Bassenthwaite pilot enjoyed the advantages of being hosted within an existing partnership, with a clear remit and focused on a project area that pilot partners recognised as a functional land management unit.

How important were existing partnerships in each area in driving forward actions and additional stakeholder involvement?

3.28 The Bassenthwaite pilot built on the strong foundation of the existing BLRP with the pilot project being integrated as a new task group within the existing BLRP. The pilot project officer acted as Chair of the task group and terms of reference were written to the existing BLRP format.

3.29 For the South Pennines pilot, the local partnership was Pennine Prospects, a rural regeneration company that was established to promote, protect and enhance the built, natural and cultural heritage of the South Pennines. Membership of the company comprises six local authorities, the two local water companies, the National Trust and Northern Rail. Although this partnership covered the pilot area, its remit and interests did not encompass all of the principal, locally available ecosystem services and this constrained its ability to engage with the pilot. The pilot was not integrated with the existing partnership structure, although Pennine Prospects did put significant officer time into the pilot and their networks were utilised in the engagement process.

3.30 For the South West pilot, the local partnership was the South West Uplands Federation (SWUF), a farmer-led initiative representing hill farmers. Members of the SWUF were involved in the pilot and the pilot drew on their network, but the SWUF does not appear to have played a significant role in shaping, supporting or informing the pilot. Other networks, particularly those of the two National Parks, appear to have been more important in securing engagement with wider stakeholder organisations.

Key findings and lessons learnt

3.31 In Bassenthwaite, integrating within the governance structure of an existing partnership saved the time and effort required to establish and operate a new partnership. Although wider relationships had to be established, many of the necessary partners were already involved in the BLRP. On a very practical level (which is important given the resource constraints cited by some stakeholders), the pilot was able to piggyback on existing meetings and utilise the existing format for Terms of Reference.

3.32 In addition, the BLRP was already used to hosting a number of other pilot projects, including one of the original four Catchment Sensitive farming projects and thus had previous experience of collaboration on the exploration of new ideas and ways of working (Natural England, 2014).

- 3.33 In the South West the SWUF does not appear to have played a significant role in supporting the pilot. In the South Pennines the Pennines Prospects organisation provided support to the pilot, but lacked the geographic focus and technical expertise of the BLRP
- 3.34 The strength and focus of the BLRP may help to explain how in this pilot, Natural England were better able to act as a facilitator or catalyst rather than a leader (see paragraphs 3.48 to 3.50). The other two pilots were not embedded in a local partnership governance structure and were therefore more reliant on the leadership of the Natural England project officer and inputs from national programme staff. The value of hosting pilots within strong partnerships, with closely aligned aims and objectives, would seem to be a key learning point from this programme.

How important were participatory ways of working in achieving stated aims in each area?

- 3.35 The pilots were intended to be locally led and a participatory approach was expected to be central to their development. In Bassenthwaite the integration of the pilot into the pre-existing BLRP meant that pilot partners were actively engaged throughout the duration of the officer-led phase of the project, particularly in the development of the land and water delivery plan and in identifying mechanisms for its delivery, through a task group, workshops and individual meetings.
- 3.36 In addition to the regular task group meetings, the pilot project ran a series of wider partner workshops, including two workshops for farmers, involving over 70 participants from more than 20 different organisations. The workshops enabled partner dialogue and ultimately, the development of the integrated delivery plan.
- 3.37 In the South Pennines considerable work was invested at an early stage of the South Pennines pilot in identifying, engaging with and building support from a wide range of stakeholders with activity including:
- A regional stakeholder group to identify regional stakeholders and potential collaborators.
 - An initial steering group meeting to raise awareness of ecosystem services and build partner support for the pilot.
 - A partner workshop to gain a shared view on the current services provided by the catchment and which services they might wish to enhance.
 - A second steering group meeting.
- 3.38 All of the above engagement took place in the first half of 2010, however there then appears to have been a hiatus, possibly as a result of a change in project manager. Participants in the pilot reported that whilst further efforts to engage partners continued, after the hiatus, this was much less extensive than originally intended.
- 3.39 In the South West efforts were made to engage local partners and stakeholders via workshops and a number of more focused meetings. However, it was reported that

tensions existed within the partnership from the start. One impact of this was that agreement on the focus of the pilot was not reached until late in the officer-led phase of the pilot (July 2010) and after this point there is some evidence that pilot activity effectively fractured, with different partners choosing to focus on specific projects in line with geography and organisational priorities. .

Key findings and lessons learnt

The importance of existing partnerships

- 3.40 Participatory work was effective and key to delivering the outputs and outcomes reported by the Bassenthwaite pilot. A critical success factor was the ability of the pilot to build on the existing partnerships, contacts and structures of the BLRP. Additional success factors were the focus of the BLRP on a given catchment and the shared purpose of the partnership.
- 3.41 In the South Pennines there was an initial investment in participatory activity, but this declined over time. Towards the end of the officer supported stage of the project it was reported, by some pilot participants, that the project was being both led and delivered by Natural England. In part this appears to have been due to the pressure to deliver within the project timeframe, but a lack of buy-in from partners also appears to have been a factor.
- 3.42 In the South West there was no history of partnership working, on land management planning at this scale and disagreements between partners, as to the focus of the pilots, were reported from the start. Three workshops were held, but it proved difficult to secure consensus and some participants reported that they did not feel that they enabled genuine participation.
- 3.43 The scale and complexity of the South Pennines and South West pilots appears to have hindered the application of a participatory approach in these areas. Although in their latter stages, following a focus on more discrete geographical focus areas there is some evidence of effective partnership working.
- 3.44 Overall the evidence suggests that given the scale, complexity and absence of an effective supporting partnership, achieving the level of engagement in the South Pennines and South West that was achieved in Bassenthwaite, would have required considerable additional time and resource. This is an important consideration for future similar schemes.

Ensuring breadth in engagement processes

- 3.45 All three pilots involved engagement with a range of partners but some significant gaps were identified. In the South West, for example, the range of sectoral interests was narrow, with the focus of most participating organisations being wholly or largely focused on land management and agriculture. None of the pilots engaged members of the general public in assessing the baseline or developing their delivery plans

3.46 The Bassenthwaite pilot ran two workshops for farmers, but stakeholders in this pilot and in the South Pennines pilot identified that this was a challenging group to engage with. Suggested reasons for this include:

- The sheer number of landowners and managers, particularly in the larger pilot areas. Resourcing engagement with these stakeholders can therefore be challenging.
- The heterogeneous nature of this stakeholder group. As one South Pennines stakeholder commented: '*They tend to be quite polarised – from one man subsistence-type people through to extremely wealthy people. Both have their challenges and the working styles are so different.*' This implies the need for tailored engagement for different types of landowners and managers.
- The perceived challenge of engaging landowners and managers in long-term programmes. Stakeholders referred to the short-term, operational focus of many farmers, many of whom are time-constrained. The longer-term and conceptually abstract nature of the pilots was therefore seen to be a barrier to engaging this group, which highlights the need for participatory processes to be tailored to meet the needs and working styles of different stakeholder groups.

3.47 The pilots illustrate the importance of engagement in securing buy-in, particularly with those who will be directly involved in delivery. They also illustrate however, a 'catch 22' – how to incentivise the involvement of stakeholders (particularly those with shorter-term horizons) when the outcomes and potential benefits are unclear until the project is well developed. The experience of the three pilots indicates that this may be addressed through factors such as:

- A more focused geography, so that the connections between services and beneficiaries are more direct and easily understood;
- Clearly articulating the ecosystem approach in ways which can be appreciated and understood by all stakeholder groups – an inability to do this was cited as a barrier in the South West and South Pennines; and
- Tailored consultation, as for farmers in the Bassenthwaite pilot, recognising that stakeholder groups are rarely homogenous and have different needs and working styles.

Ensuring the sponsoring organisation plays a facilitation role

3.48 Natural England's intention was that local pilot officers would work as facilitators or catalysts rather than as project managers. In practice, this appears to have been less clear-cut.

3.49 In the South Pennines, they played an active role in the delivery of project activity and the interview findings suggest that they very much managed and drove the work of the pilot in conjunction with national colleagues. In the South West, some stakeholders perceived that Natural England had 'parachuted in' and that a more open and deliberative approach would have been beneficial.

- 3.50 In contrast, the evaluation of the Bassenthwaite pilot concluded that Natural England's role had primarily been one of a facilitator and coordinator; this was enabled by the existence of a strong local partnership, but is considered likely to have been a factor in securing greater stakeholder ownership of project outputs.
- 3.51 This contrast was probably driven by a number of factors but it is worth noting that the South West and South Pennines pilots were starting from a lower base than the Bassenthwaite pilot (in terms of partnership development, governance and networking) and were operating over larger and more complex geographic areas. Playing a facilitation role in this context was therefore more challenging and taking a more proactive and direct role in the delivery of the pilot was partly a response to such challenges, adopting more of a facilitation role is likely to have been considered unrealistic in the timescales available.
- 3.52 It is clear however that adopting a facilitation rather than 'driving' role is an important factor in securing, and in particular sustaining, partner buy-in to project outputs and its absence undermined the potential for activity to continue beyond the lifespan of the South Pennines and South West pilots. In both cases, once the pilot project officers finished so too did project activity, something which illustrates the reliance of these pilots on the project officer and sponsoring organisation.

What lessons can we learn in terms of evaluating the pilots?

- 3.53 As noted in section 1 (see paragraph 1.11) the evaluation of the Bassenthwaite pilot was undertaken by Natural England staff, whilst CAG Consultants undertook the evaluations of the South Pennines and South West pilots. Some methodological differences were identified during the course of the research, but it is not felt that these impacted on the comparability of the three reports.
- 3.54 The CAG project manager maintained a project log during the evaluation and this included a section on key learning points associated with this evaluation. These are described below. Discussions with Natural England staff suggest that these lessons apply to all three evaluations.

Scheduling of evaluation activity

- 3.55 The most obvious lesson in relation to this evaluation is that evaluations of this type (process evaluations) should be undertaken more promptly. As noted in the Challenges and Limitations section (paragraphs 2.8 and 2.9) the length of the gap between the completion of project activity (end of March 2011) and evaluation activity (commenced September 2017 in the case of the South West and South Pennines pilots) meant that interview respondents struggled to recall detail. In addition, a number of respondents noted that, when responding to interview questions, there was the possibility that their recollection of the pilot might have been confused by their subsequent participation in other initiatives.
- 3.56 In projects of this type, we would suggest that a process evaluation should have been conducted shortly after the completion of the pilots. This would have allowed for the capture of stakeholder views and impressions whilst the project was still fresh in their

minds. This initial evaluation could have subsequently been complemented by an impact evaluation, scheduled at a point in time when the medium and longer term objectives of the project might be expected to have been achieved. This twin track approach would take into account the fact that sometimes the impacts of a project may not be immediately apparent, or even realised, until some time has elapsed. For example, in relation to this evaluation the delay between the completion of the projects and this evaluation meant that the research team was able to identify a number of post-pilot outputs and outcomes.

Project Monitoring

- 3.57 As noted in the 'Challenges and Limitations' section the evaluation was hampered by gaps in the documentary evidence. We are aware that some consideration was given to the feasibility of monitoring environmental outcomes from the pilots and that some work was commissioned to examine this matter. In practice however it was reported that the pilots lacked the resources and potentially the capability to undertake such work.
- 3.58 Whilst acknowledging that the pilots operated on a very tight budget – arguably too tight as resource constraints were repeatedly identified by interview respondents and in project documentation – this need not have precluded the collection and recording of some simple forms of data within the project reporting cycle.
- 3.59 Whilst it is often difficult at the start of a programme to know what data and information will be useful at its end, this can be addressed by incorporating a project monitoring and evaluation framework into the broader project/programme reporting framework.
- 3.60 Ideally a monitoring and evaluation framework would identify the key research questions and the type of data that should be collected to enable future evaluation activity. It is likely, as was the case with the pilots, that monitoring and measurement will always be limited by resource constraints. In some cases this will impact on the ability of the pilots and evaluators to fully address research questions and this should be recognised by programme designers from the outset. However, some level of data collection should always be feasible and evaluation frameworks can be tailored to fit most circumstances.
- 3.61 The collection of key data and insights during the course of the programme would have gone some way towards alleviating the challenges associated with the delayed nature of the evaluation research.

Consider the inclusion of a literature review

- 3.62 Whilst the pilots were innovative at the time others have subsequently looked to apply an ecosystem approach² and in some cases these projects have also been evaluated. In addition a number of other relevant area-based initiatives³ have been trialled over the years and have learned lessons about issues relevant to the pilots and the ecosystem approach, for example in relation to cross-organisational collaboration and

² For example the Scottish government's Land Use Strategy Pilots.

³ For example the Countryside Agency's Land Management Initiatives.

partnership working. We would suggest that this evaluation would have benefited from the inclusion of a rapid scoping review - a systematic, although relatively light touch form of literature review. This would have enabled a broader comparison to be made between the upland ecosystem pilots and other initiatives.

Key findings and lessons learnt

- 3.63 There are two key learning points to be drawn from this evaluation. The first of these is that the delay between the conclusion of the pilots and the evaluations (all of which were principally process evaluations) was too long. This had a particular impact on the qualitative element of the research as some key stakeholders were unavailable for interview whilst those that did participate were generally unable to respond to more detailed questions. In an ideal scenario the evaluation, or at least the qualitative elements of the research, should have been undertaken shortly after the cessation of pilot activity. There is some merit in delaying evaluations of pilot impact because there can be a time lag, again however the delay involved in this evaluation is felt to be too long.
- 3.64 The second key learning point relates to project monitoring (of process, outputs and outcomes and ultimately impacts). Ideally the pilots would have developed a monitoring and evaluation framework and identified and agreed a standard set of data collection protocols as part of the project management cycle. We are aware that the project budget was limited but a framework could have been tailored to take account of this. That said we would suggest that project budgets should allow for monitoring to, as a minimum, enable a project to monitor whether or not it has met its primary aims. This is particularly important for innovation projects where learning points are the most important output.
- 3.65 Whilst it did not emerge directly from the research we would suggest that it would have been useful for the evaluation of the pilots to include a comparison with other land management initiatives. Having been involved in the delivery and evaluation of other forms of innovative land management initiative we are aware that some of the pilots' experiences are not unique. Had the evaluation included a review of other relevant literature this might have increased the value of the research in terms of its ability to inform Natural England and Defra's work on the Pioneer Projects and other activity related to the 25 Year Plan.

How were environmental outcomes captured in each area? What mechanisms were (in place/put in place) to achieve these?

- 3.66 Discussions between CAG and Natural England programme management team members suggest that it was accepted that the pilots might not generate environmental outcomes (in terms of changes in ecosystem services) during the lifetime of the pilot projects. It was originally intended that the pilots would be run in two stages and that one of the primary outcomes from the initial eighteen-month, project officer supported, stage would be an integrated delivery plan for the pilot area. The delivery of the plan, during the anticipated second stage of pilot activity, would

have been expected to lead to changes in land management and through this the delivery of environmental benefits.

- 3.67 In practice the South West pilot, did not develop an integrated plan and pilot project, and activity ceased at the end of the project officer supported stage (end of March 2011). As a result, no environmental outcomes were reported as arising from this pilot. Some environmental benefits are likely to have been generated through pilot legacy projects, however an assessment of these is outside the scope of this evaluation and in any event, it would be expected to be very challenging to determine the extent to which measured benefits could be attributed to the pilots.
- 3.68 Delivery plans were developed for both the South Pennines and Bassenthwaite pilots, but, as with the South West pilot, activity on the South Pennines pilot ceased at the end of the project officer supported stage and no monitoring mechanisms were in place to determine if project partners had taken work forward. Whilst the evaluation report for the South Pennines identified some evidence to suggest that some activities identified in the integrated delivery plan had been acted upon, it concluded that this was inconclusive and that there was no empirical evidence to support the view that any environmental outcomes were delivered as a direct result of pilot activity. The report did however note that the pilot informed later projects and that these may have generated positive environmental outcomes.
- 3.69 The evaluation report for the Bassenthwaite pilot indicates that the integrated delivery plan was successful in delivering environmental benefits, or at least in moving land management activity in a direction that would be expected to result in positive environmental outcomes (over and above those that might have otherwise have been achieved).
- 3.70 The main mechanism through which this was achieved was through the targeting of the Environmental Stewardship agri-environment scheme. Project officer supported activity included the use of geographical information systems (GIS) to identify the priority land holdings – these being holdings targeted for land use change in order to deliver the objectives of the pilots integrated delivery plan. This process identified 40 holdings, 28 of these had previously been identified as priorities for the Higher Level Stewardship scheme, but as a result of the GIS exercise another twelve were put into Natural England’s project planning pipeline.

Key findings and lessons learnt

- 3.71 There is no empirical evidence of environmental outcomes being delivered through or as a result of the South West and South Pennines pilots. It seems likely that some benefits may have been indirectly delivered through legacy projects and projects informed by these pilots, but this has not been substantiated and cannot be assessed. The evaluation team would have been better able to address this matter had the programme established and maintained a robust monitoring and evaluation reporting framework; as recommended in 3.54.

3.72 The Bassenthwaite pilot was able to identify land management changes, intended to lead to specified outcomes, and to attribute these to the activities of the pilot. The delivery mechanism for benefits was the environmental stewardship agri-environment programme.

The role of economic valuation in each pilot

3.73 The first Bassenthwaite pilot workshop identified a range of ecosystem services providing both market (such as food) and non-market goods (such as water quality). During the course of the pilot, an economic benefits report (Rebanks Consulting, 2010) was commissioned to assess the existing economic context and its relationship to the provision of ecosystem services. Although a full economic valuation was originally envisaged to be part of pilot, it took much longer than expected, partly due to resources being diverted elsewhere. The economic valuation for the Bassenthwaite pilot was therefore not completed until after the initial participatory phase of the Pilot (in 2015), which meant that it did not inform the delivery plan.

3.74 In the South Pennines, detailed economic valuation work was completed for two of the focal catchments (Harlow and others, 2012, Clarke and others, 2015). The published reports provide a cost-benefit analysis based on the valuation of projected provision of ecosystem services for two different future land management scenarios. However, as in Bassenthwaite, this work was completed after the delivery plan was developed so it was not possible for the outputs to be utilised in informing decision making within the pilot itself.

3.75 In the South West pilot, some economic valuation activity did take place and local Natural England staff produced draft versions of the following documents:

- Valuing land management investments in the SW Pilot: Exmoor Study Area catchments.
- Valuing land management investments on Dartmoor.
- Exe and Barle Valuation tables.
- Wimbleball and Pulham Valuation tables.

Key findings and lessons learnt

3.76 The valuation exercises were reportedly more challenging and time consuming than originally expected. This reflects the fact that economic valuation of this kind was innovative. The South Pennines pilot originally had the intention of building on the economic valuation and establishing a system of payments for ecosystem services, but this proved overly ambitious within the timescale and resource parameters (see Appendix B for subsequent work on payments for ecosystem services building on the South Pennines and Bassenthwaite Pilots). Key challenges were:

- Developing a methodology in the absence of a pre-existing model. Work in the South Pennines found particular challenges in valuing some ecosystem services, for example potential changes in flood risk management, potential changes in

access and recreation and potential changes to provisioning services (specifically those from agriculture) (see Harlow and others, 2012).

- Collating the necessary data on the links between economics and land management. This was particularly the case where some of the data (for example some water company data) was considered commercially sensitive.
- Securing the necessary time inputs from partners, particularly given the complexity of the process.

3.77 Some of these challenges relate to other key issues in this report. Geography and spatial scale, for example, were key factors in successfully completing the economic valuation work in the South Pennines. The work was completed in two focus catchments, for which the relevant data was more readily available and there was direct partner interest (particularly from water companies in terms of water treatment cost savings).

3.78 The key learning point from the pilots is that economic valuation is challenging and resource- and data-intensive, particularly if it is to be carried out as a participatory process. This needs to be planned for in terms of time, skills and level of ambition. The feasibility of economic valuation, particularly if it is to be conducted as a participatory process, will be impacted by the location and spatial scale chosen.

4 Conclusions

4.1 The upland ecosystem pilots were intended:

- To provide practical examples demonstrating how the ecosystem approach could be applied on the ground.
- To use a consultative ecosystem approach to define land and water management based upon stakeholders' perceptions of the best options.
- To demonstrate that investment in the natural environment can result in multiple benefits (carbon, water, food, biodiversity, recreational and landscape benefits).
- To work in partnership to deliver a range of ecosystem services in a cost-effective way and link these services to the beneficiaries.

4.2 Assessments of the extent to which individual pilots were able to deliver against these aims are given in the stand-alone evaluation reports. Some reference will be made to the individual pilot's relative performance in the following section.

To provide practical examples demonstrating how the ecosystem approach could be applied on the ground.

4.3 When considered collectively there is considerable evidence to support the view that the three upland ecosystem pilots have provided useful practical examples of how to apply the ecosystem approach 'on the ground'.

4.4 All pilots were reported as having provided a focus for discussion and for having moved forward regional discussion on the ecosystem approach. More tangibly each pilot appears to have left some form of legacy as catalysts of, and formative influences on, successor initiatives. The pilots' influence can be clearly seen at the national level via the number of reports, tools and other outputs that have drawn on learning from the programme (see Appendix B).

4.5 Whilst the national debate has largely moved on from the ecosystem approach, to focus on natural capital, interviews with national Natural England staff indicate that the pilots continue to provide useful learning. For example, lessons learnt from the South Pennines pilot's work on valuation were reported as having been useful in informing Defra's Pioneer Projects.

4.6 On a less positive note it should be acknowledged that none of the pilots delivered all of their planned outputs, and only one was able to provide evidence of a clear impact on land management practices. In part this is likely to be due to the ambitious nature of the pilots, something remarked on by some project participants.

4.7 There is also evidence to suggest, particularly in the South West and South Pennines, that the pilots had insufficient time to embed themselves, and secure buy-in to the

ecosystem approach concept, within their local area. The size of these pilots, the fact that they encompassed multiple administrative boundaries, and the newness of the ecosystem concept to local partners, were all reported as challenging for the South West and South Pennines pilots.

- 4.8 These issues were experienced less acutely by the Bassenthwaite pilot, the most successful of the pilots, and there would appear to be lessons to be learnt here about the selection of pilot sites. In particular the Bassenthwaite pilot appears to have benefited from the existence of a strong local partnership with experience of landscape scale approaches to land management and a focus on a recognised (by partners) land management unit (a catchment). None of these characteristics applied in the other two pilots.

To use a consultative ecosystem approach to define land and water management based upon stakeholders' perceptions of the best options.

- 4.9 Taking the programme as a whole, a consultative ecosystem approach was only partially applied. In the South Pennines pilot, considerable initial consultation took place, and this is likely to have informed the delivery plan. However, in the later stages of the pilot very little consultation took place, the delivery plan was drawn up by Natural England staff and as a result was not 'owned' by pilot partners. The South West pilot, although successful in securing early engagement with some key stakeholders, found it difficult to secure agreement amongst the partners and did not get to the stage of defining land and water management objectives.
- 4.10 In Bassenthwaite a consultative approach clearly underpinned the work of the pilot, with this being pursued primarily through a series of interactive stakeholder workshops. This appears to have meant that the resulting delivery plan was viewed as being a genuinely shared plan by pilot partners.
- 4.11 Overall, engagement was most effective and sustained with stakeholders from the environmental, agricultural and land management community. Efforts were made to engage with a wider audience, but in general there was limited evidence of success although the Bassenthwaite pilot was reported as having been effective in securing some level of engagement with the tourism sector. Given that the focus of the pilots was informed by local stakeholders it is possible that some types of ecosystem services received less attention than they warranted owing to the absence of representation within the pilots governance systems.
- 4.12 The experience of all three pilots highlights the challenge of adopting a consultative ecosystem approach, particularly in terms of ensuring that it is:
- Broad - beyond the 'usual suspects' and encompassing all key ecosystem services.
 - Constructive - with the time and resource to understand the perspectives of others, identify areas of alignment and address competing interests and aspirations.
 - Meaningful - directly contributing to project outputs.

4.13 The evaluation highlights a number of key considerations for ensuring that this can be achieved including:

- The importance of context - in larger project areas and/or those without an established history of cross-sectoral partnership working, more time and skilled resource will be needed.
- Building participation into decision-making processes – participation needs to be ‘designed-in’ to each stage of the process.
- Ensuring breadth in engagement processes, which can be facilitated through:
 - a more focused geography, so that the connections between services and beneficiaries are more direct and easily understood;
 - clearly articulating the ecosystem approach in ways which can be appreciated and understood by all stakeholder groups; and
 - tailored consultation, recognising that stakeholder groups are rarely homogenous and have different needs and working styles.
- Ensuring the sponsoring organisation plays a facilitation rather than ‘driving’ role.

4.14 One issue that emerged strongly in the South West pilot was partners’ desire to deliver benefits to local communities of interest, in this case upland farmers, by developing new mechanisms for paying them to deliver ecosystem services. For some partners this may have been more important than the delivery of ecosystem services, if so this seems likely to have affected the ultimate focus and approach of the pilots. It is not clear how important a point this is, but it is suggested that if such an approach were to be widely pursued this might prevent the development of optimal approaches to ecosystem service delivery as instead of focusing on how best to deliver desired ecosystem services, the approach might be one of how best to deliver ecosystem services whilst ensuring the continuation of existing agricultural holdings.

To demonstrate that investment in the natural environment can result in multiple benefits (carbon, water, food, biodiversity, recreational and landscape benefits).

4.15 The programme clearly demonstrated, in theoretical terms, that targeted investment in the natural environment can generate multiple benefits. Both the Bassenthwaite and South Pennines pilots generated delivery plans containing land management actions which identified opportunities for enhancing the provision of multiple ecosystem services. In the South West pilot, although no delivery plan was produced, draft assessment work was conducted which illustrated the multiple benefits which could be delivered by different land management actions. Only the Bassenthwaite pilot however, provided a practical demonstration of how such services might be delivered.

4.16 Valuation, of ecosystem benefits, was intended to form a core element of the programme. This work was innovative and in practice proved more demanding than anticipated. Although valuation work was undertaken in both the South Pennines and Bassenthwaite pilots, this work occurred after the development of the delivery plans and therefore did not inform delivery.

- 4.17 Overall the programme provides a useful example of how investment in the natural environment might be targeted to secure desired ecosystem services. However, the pilots clearly highlight that quantifying such benefits in economic terms is challenging and resource- and data-intensive, particularly if it is to be carried out as a participatory process. This needs to be planned for in terms of time, skills and level of ambition. The feasibility of economic valuation, particularly if it is to be conducted as a participatory process, will be impacted by the location and spatial scale chosen.
- 4.18 The work was pioneering and therefore was found to be challenging, however the lessons learnt have been, and continue to be, valuable in informing successor projects - as described elsewhere in this report.

To work in partnership to deliver a range of ecosystem services in a cost-effective way and link these services to the beneficiaries.

Partnership working

- 4.19 The pilots were intended to be locally led and to build upon existing partnerships and networks. Each pilot invested heavily in work to engage partners, but experienced varying degrees of success.
- 4.20 In the South West the effectiveness of the pilot partnership was hampered by internal competition to host and lead practical project activity. This is associated with the fact that the pilot encompassed multiple organisational boundaries and each organisation would have been expected to have its own agenda and priorities. It is notable that pilot activity appears to have been most successful when partners were able to agree to focus on smaller, functionally discrete, land management units. In both the South West and South Pennines pilots partners ended up focusing on discrete sub-pilot areas – rather than the pilot area as a whole – whilst in Bassenthwaite the focus of the pilot was on a single catchment.
- 4.21 A focus on smaller areas reduces complexity (of all types) and it could be argued that given the newness of the approach it would have been better for the pilots to have focused on smaller focal areas from the start. The issue is however perhaps not just about scale, but also about whether or not partners recognise the functionality of the land unit chosen. The Bassenthwaite evaluation report noted that having a pre-existing partnership in place and being able to integrate the work of the pilot into that partnership was integral to their ability to progress the pilot. We think that this is itself an important learning point, but would note that the fact that this partnership existed to focus on what partners recognised as a functional land management unit, and on issues of collective interest, is also likely to have been important.
- 4.22 In both the South West and South Pennines it was reported that the pilot areas were not recognised as functional land management units by partners, and that partners were either reluctant to work outside of their boundaries and, or, faced challenges in doing so. It is suggested that the South West and South Pennines pilots may have been more successful had their boundaries been more closely aligned to partner administrative boundaries (even if this meant they encompassed fewer partners), or to

one or more discrete, functional land management units, likely to be of interest to partners.

- 4.23 It is acknowledged that when running pilots to trial new concepts, such as the ecosystem approach, there is a case for suggesting that being able to trial the concept might be sufficient incentive for partners to engage. In practice this does not appear to have been the case in this instance, perhaps because, as noted by several interview respondents, the newness of the concept meant that pilot participants did not fully understand the potential benefits.

Summary

The pilots represented an early attempt to demonstrate how the ecosystem approach might be applied to practical land management scenarios within the UK. With national attention now shifted to natural capital, the learning from the upland ecosystem pilots remains valid and offers useful lessons to Natural England and their partners, particularly in the light of the recent emergence of the government's 25 Year Environment Plan.

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Appendix A: Ecosystem Approach Principles (Convention on Biological Diversity)

(Source: <https://www.cbd.int/ecosystem/principles.shtml>)

Principle 1: The objectives of management of land, water and living resources are a matter of societal choices.

Different sectors of society view ecosystems in terms of their own economic, cultural and society needs. Indigenous peoples and other local communities living on the land are important stakeholders and their rights and interests should be recognized. Both cultural and biological diversity are central components of the ecosystem approach, and management should take this into account. Societal choices should be expressed as clearly as possible. Ecosystems should be managed for their intrinsic values and for the tangible or intangible benefits for humans, in a fair and equitable way.

Principle 2: Management should be decentralized to the lowest appropriate level.

Decentralized systems may lead to greater efficiency, effectiveness and equity. Management should involve all stakeholders and balance local interests with the wider public interest. The closer management is to the ecosystem, the greater the responsibility, ownership, accountability, participation, and use of local knowledge.

Principle 3: Ecosystem managers should consider the effects (actual or potential) of their activities on adjacent and other ecosystems.

Management interventions in ecosystems often have unknown or unpredictable effects on other ecosystems; therefore, possible impacts need careful consideration and analysis. This may require new arrangements or ways of organization for institutions involved in decision-making to make, if necessary, appropriate compromises.

Principle 4: Recognizing potential gains from management, there is usually a need to understand and manage the ecosystem in an economic context. Any such ecosystem-management programme should:

- a. Reduce those market distortions that adversely affect biological diversity;
- b. Align incentives to promote biodiversity conservation and sustainable use;
- c. Internalize costs and benefits in the given ecosystem to the extent feasible.

The greatest threat to biological diversity lies in its replacement by alternative systems of land use. This often arises through market distortions, which undervalue natural systems and populations and provide perverse incentives and subsidies to favor the conversion of land to less diverse systems. Often those who benefit from conservation do not pay the costs associated with conservation and, similarly, those who generate environmental costs (e.g. pollution) escape responsibility. Alignment of incentives allows those who control the resource to benefit and ensures that those who generate environmental costs will pay.

Principle 5: Conservation of ecosystem structure and functioning, in order to maintain ecosystem services, should be a priority target of the ecosystem approach.

Ecosystem functioning and resilience depends on a dynamic relationship within species, among species and between species and their abiotic environment, as well as the physical and chemical interactions within the environment. The conservation and, where appropriate, restoration of these interactions and processes is of greater significance for the long-term maintenance of biological diversity than simply protection of species.

Principle 6: Ecosystem must be managed within the limits of their functioning.

In considering the likelihood or ease of attaining the management objectives, attention should be given to the environmental conditions that limit natural productivity, ecosystem structure, functioning and diversity. The limits to ecosystem functioning may be affected to different degrees by temporary, unpredictable or artificially maintained conditions and, accordingly, management should be appropriately cautious.

Principle 7: The ecosystem approach should be undertaken at the appropriate spatial and temporal scales.

The approach should be bounded by spatial and temporal scales that are appropriate to the objectives. Boundaries for management will be defined operationally by users, managers, scientists and indigenous and local peoples. Connectivity between areas should be promoted where necessary. The ecosystem approach is based upon the hierarchical nature of biological diversity characterized by the interaction and integration of genes, species and ecosystems.

Principle 8: Recognizing the varying temporal scales and lag-effects that characterize ecosystem processes, objectives for ecosystem management should be set for the long term.

Ecosystem processes are characterized by varying temporal scales and lag-effects. This inherently conflicts with the tendency of humans to favour short-term gains and immediate benefits over future ones.

Principle 9: Management must recognize the change is inevitable.

Ecosystems change, including species composition and population abundance. Hence, management should adapt to the changes. Apart from their inherent dynamics of change, ecosystems are beset by a complex of uncertainties and potential 'surprises' in the human, biological and environmental realms. Traditional disturbance regimes may be important for ecosystem structure and functioning, and may need to be maintained or restored. The ecosystem approach must utilize adaptive management in order to anticipate and cater for such changes and events and should be cautious in making any decision that may foreclose options, but, at the same time, consider mitigating actions to cope with long-term changes such as climate change.

Principle 10: The ecosystem approach should seek the appropriate balance between, and integration of, conservation and use of biological diversity.

Biological diversity is critical both for its intrinsic value and because of the key role it plays in providing the ecosystem and other services upon which we all ultimately depend. There has been a tendency in the past to manage components of biological diversity either as protected or non-protected. There is a need for a shift to more flexible situations, where conservation and use are seen in context and the full range of measures is applied in a continuum from strictly protected to human-made ecosystems

Principle 11: The ecosystem approach should consider all forms of relevant information, including scientific and indigenous and local knowledge, innovations and practices.

Information from all sources is critical to arriving at effective ecosystem management strategies. A much better knowledge of ecosystem functions and the impact of human use is desirable. All relevant information from any concerned area should be shared with all stakeholders and actors, taking into account, inter alia, any decision to be taken under Article 8(j) of the Convention on Biological Diversity. Assumptions behind proposed management decisions should be made explicit and checked against available knowledge and views of stakeholders.

Principle 12: The ecosystem approach should involve all relevant sectors of society and scientific disciplines.

Most problems of biological-diversity management are complex, with many interactions, side-effects and implications, and therefore should involve the necessary expertise and stakeholders at the local, national, regional and international level, as appropriate.

Appendix B: A list of initiatives, reports and other products that have been informed by the pilots

The following is a list of activities, reports, tools and other products that Natural England have identified as having been informed, to some degree, by the work of the upland ecosystem pilots.

Valuation of ecosystem services:

- Value of the Natural Environment Report NE publication: [No charge? Valuing the natural environment - NE220](#) [No Charge? Valuing the natural environment: Technical report - NERR032](#)
- Lowland ecosystem services valuation case studies: lowland examples to complement the upland pilots [Valuing Ecosystem Services: Case Studies from Lowland England - NECR101](#)
- Informing economic valuation work in the Defra Pioneer Projects.

Payments for Ecosystem Services:

- Peatland code through NE/Defra place-based Payments for Ecosystem Services work, using the South Pennines as a case study: [Valuing nature's services: moving towards payments for ecosystem services and conservation credits in the English Uplands - NE0136](#) . This includes a technical annex on the development of metrics for assessing carbon emissions from peatland based on vegetation types, which has been incorporated into the UK Peatland Code (IUCN 2017), which is 'a *voluntary standard for UK peatland projects wishing to market the climate benefit of peatland restoration*'.
- *Nurture Lakeland. 2011. Vital Uplands, Visitor Payback Pilot Scheme, Bassenthwaite catchment. Report to Natural England (unpublished)* funded by the Bassenthwaite Pilot. Nurture Lakeland's Visitor Giving Scheme was subsequently a Defra Payments for Ecosystem Services pilot.

Mapping of ecosystem services

- Learning from the mapping undertaken in the pilots - development of mapping of ecosystem services: [Assessing the potential for mapping ecosystem services in England based on existing habitats - NERR056](#); with York University producing a gateway to local projects mapping ecosystem services [Ecosystem Service Mapping Gateway](#); natural capital mapping with CEH [Natural Capital — CEH Environmental Information Platform](#) all of which have been fed into European reporting on mapping natural capital and ecosystem services through the Esmeralda Programme.

Monitoring of ecosystem services

- Initial work on monitoring ecosystem services: Cranfield University scoping potential monitoring and modelling approaches for the three pilots [Monitoring and modelling ecosystem services: A scoping study for the ecosystem services pilots - NECR073](#)

Management for ecosystem services

- Development of Natural England's Ecosystem Service Transfer Tool and Managing Ecosystem Services Evidence Review fact sheets: a project with York University (following initial work by Cascade Consulting) which is a systematic literature review of the impact of different land management interventions on ecosystem services: [Ecosystem Services Transfer Toolkit - NECR159](#). Used e.g. in the Environment Agency's working with natural processes evidence work programme on natural flood management.
- *Atkins. 2012. The value of woodland on flood reduction in the Derwent Catchment. Report to Cumbria Woodlands, Environment Agency, Natural England and Forestry Commission (unpublished)* funded by the Bassenthwaite Pilot. Some of the first work in Cumbria attempting to hydrologically model natural flood management. Natural flood management work has become much more prominent in Cumbria following the formation of the Cumbria Flood Partnership.

Informing other ecosystem services, ecosystem approach and natural capital initiatives

- Development of the self-assessment criteria for Biodiversity 2020 Outcome IC [Biodiversity 2020: A strategy for England's wildlife and ecosystem services - GOV.UK](#)
- The pilots influenced the first iteration of the Natural Capital Committees thinking on a natural capital approach through the secretariat of Julian Harlow and Stewart Clarke (national programme staff for the pilots).
- The pilots influenced the development of the Defra Pioneers.
- Numerous presentations on the Pilots to e.g. Scottish Natural Heritage (SNH) Land Use Strategy conference; Scottish Ecosystem Services Community; European ecosystem services conference hosted by Natural Resources Wales (NRW); Cumbria Catchment Pioneer; also face to face meetings with NRW and SNH discussing experiences with the Pilots.

Informing research

- NERC Biodiversity and Ecosystem Services Programme: influencing the call for evidence through a presentation at the launch of BESS and membership of the Panel Advisory Group.
- Learning from the pilots strongly influencing the development of the cultural services thinking of the UKNEA Follow-On (UKNEAFO), to be place-based and more practical. Feeding in the experience from the Pilots, including from the Baseline Assessments and the South Pennines report on [Assessing and evaluating the cultural services of the South Pennines ecosystem services pilot - NECR128](#)
- UKNEA Follow On Launch: Bassenthwaite Pilot presented as an example of applying ecosystem approach on the ground.

Sharing learning

- Development of [Ecosystem Approach Handbook](#) based on experience from the pilots.

- Natural England ecosystem approach and natural capital training (several hundred trained) plus initial natural capital training for all 4 Defra Pioneer Project partnerships – pilots used as examples of application on the ground.