Red Kite

Identifying New and Innovative Approaches to Achieve National and Local Outcomes through the Environmental Land Management Scheme in the Cotswolds AONB

Cotswolds Conservation Board

Final report

March 2020

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Contents

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Summary

1 Introduction

In September 2019 the Cotswolds Conservation Board let a contract to Red Kite Environment to undertake a test on the Environmental Land Management Scheme (ELMS) proposed in the Agriculture Bill 2018. The Bill is the post-Brexit successor to the Common Agriculture Policy, providing an opportunity to devise a new approach to agricultural support and agri-environment mechanisms tailored to England.

This test aims to explore:

- how new and innovative approaches could be devised that are tailored specifically for the Cotswolds which will deliver both local and national priorities and;

- what farmers, foresters and land managers would require in order to deliver the priorities successfully.

The test

The test was run with the following activities:

- Initial research of relevant documents.
- Pilot meeting with a group of farmers and land managers to seek views on goals, priorities and actions to take forward to the next consultation workshops.
- Four consultation workshops with farmers and land managers held in four locations around the Cotswolds AONB to discuss opportunities for ELMS, and to consider an approach for delivering ELMS in the Cotswolds.
- Follow-up meetings with individuals to discuss aspects of land management.
- Final meeting with farmers and land managers to discuss details of land management plans and payment rates.
- A questionnaire on SurveyMonkey distributed to NFU members and other organisations.

2 Background

The key documents consulted during our initial research included:

- The UK Government's 25-year Environment Plan.
- The House of Commons briefing paper on the Agriculture Bill 2018.
- Cotswolds AONB Management Plan 2018 – 2023.
- National Character Area Profile 107, Natural England.

Other documents consulted were from organisations such as the National Farmers Union, the Sustainable Food Trust, the Pontbren Farmer Project, the Pasture-Fed Livestock Association and the Royal Society for Agriculture.

This research provided essential background information on the Government's aspirations for an improved environment and an enhanced agri-environment package under the

Agriculture Bill, alongside an understanding of the objectives for enhanced land management in the Cotswolds AONB. It also highlighted the aspirations of other organisations for better agricultural land management in ways that could be supported under ELMS.

3 Key findings from the workshops

The five workshops provided a wealth of views about farming in the Cotswolds and how ELMS might provide support in the future. The key points from the discussions were:

About the current system and ELMS

- The existing system is too centralised, bureaucratic, inflexible and narrow in scope.
- Advice and support were good originally, but as funding for staff was reduced the support disappeared.
- There would be a significant problem if BPS is not replaced by something that provides similar funds and resources.
- The role of CAP is to support the rural economy. The primary aim of ELMS should be the same. ELMS needs to be priced accordingly.
- Payments for ELMS need to be regular and on-time, with no default, and from one payment agency.
- Farms with poor quality land should not get more money than those with higher quality – it should be level ground.

About farming in the Cotswolds

- A lot of the Cotswolds is not very viable, with only 5cm of topsoil. Soil health is a significant issue.
- We are losing soils, and climate change is a big issue.
- Extensive mixed farming would be supported by many.
- We must think more about integrating forestry and pasture with arable.
- The Cotswolds is essentially an open landscape. Farmers would not want to see it changed significantly by growing large numbers of trees. Agri-forestry is an opportunity.
- Mob grazing should be considered more.
- There should be more awareness of the rules of water management on farms.
- There should be more support for organic farming.
- Regenerative farming techniques should be included in the scheme.
- There is a demand for quality produce.
- Carbon calculation is important, but few farmers are doing it.

About the delivery of ELMS

- There needs to be local delivery and administration of ELMS. It should not be a competitive process or based on income foregone. Payments must be regular.
- Provision of advice and support regionally and locally is considered to be absolutely essential for ELMS to succeed. Advisers should be knowledgeable and provide a continuity of support.
- If the money is right and sufficient support and advice is provided and it is simple enough to manage then it will be supported. It must also be profitable for the farmer.

4 An outcomes-based approach for ELMS in the Cotswolds

Based on our initial research and the responses we received during the workshops we proposed an approach for delivering ELMS in the Cotswolds based on four **desired outcomes**. These are:

- **Enhanced soil health**. Farmers and land managers are aware of the decline in soil quality and its impact on harvests.
- **Reduced emissions of greenhouse gases** (GHG). A range of measures to reduce emissions and enhance carbon sequestration would significantly help reduce overall emissions of GHG from the agricultural sector.
- **Enhanced water management**. Water runoff from the land is an increasing concern and retaining water in the soil through a variety of measures can greatly enhance water management.
- **Enhanced biodiversity and landscape management**. This outcome provides continuity with the existing agri-environment scheme and is targeted for farmers and land managers who may not want, or be able, to achieve the other outcomes.

A table is included in the text which lists 23 interventions that can help to deliver these outcomes.

We consider an ELMS outcome as being a 'direction of travel' with **milestones** that can be measured, rather than as a quantifiable state with an end point.

The scheme would work in the following way:

- A farmer or land manager can aim to achieve these outcomes by adopting a **programme of interventions**, many of which can achieve multiple outcomes.
- The farmer or land manager can choose a desired outcome, or outcomes, and then select a programme of interventions that are appropriate for the land, for the farm business, or for their specific interests or ambitions for the land.
- The focus of ELMS would be the **measurement of the 'journey' towards desired outcomes**. Interventions could be changed during the scheme if some were found to be failing or others considered to be more appropriate.
- Additional payments should be made for **larger area schemes** involving groups or clusters of farmers and land managers for schemes that integrate and connect habitats and for valley catchments to retain water.
- The scheme would rely on undertaking a **baseline assessment** of soil quality, carbon footprint and biodiversity/landscape, and **regular monitoring**. The costs for assessment and monitoring should be included in the scheme.

Farmers and land managers responses to this proposed approach, during the workshops and in the questionnaire, were largely supportive. Those who supported the approach considered that the desired outcomes were valuable both for the quality of the land and for the benefit of the public.

Reservations about the approach included the difficulty of monitoring the outcomes, the difficulties of changing farming practice such as introducing mixed farming, and the vagaries of pests and weather that can leave the soil bare despite the adoption of appropriate interventions. Some farmers also felt the approach was too complicated.

5 Administering ELMS

The efficient administration of ELMS is key to its take-up by farmers and land managers, and for its success. The key points arising from the consultation are:

- ELMS should be a **single scheme** run nationally, with a regional overview and local administration. The application should involve completion of one document and the signing of a contract committing both sides to the agreement.
- ELMS should be supported by **expert advisers** with authority, who understand farming, forestry and environmental management in the Cotswolds. The advisers will work with farmers and land managers to build schemes and monitor their progress.
- A **payment schedule** should be included in the contract to include payments for up-front costs, regular payments and payments for achievement of 'milestones' towards the desired outcomes. It should allow for 'stacking' of income sources.
- The advisers should facilitate **group meetings** for scheme participants to share knowledge and experience.
- There needs to be **continuity with existing BPS and CSS**, with a smooth transfer.
- There needs to be **high quality mapping** of the land, which would be included in the Land Management Plan.
- ELMS should provide **long term support**, particularly for tree planting and pasture creation.

Payments through ELMS should include:

- The costs of **changes in infrastructure** needed to implement a scheme, for example for fencing, gates, water supply and repair of hedgerows.
- The costs of **machinery and equipment** required to implement a scheme, either for individual farms and properties, or shared among a group of farms.
- The cost of **contractors** who may be needed to deliver parts of a scheme, and these costs will need to take account of their needs for new machinery or equipment.
- Charges for the **baseline assessment** and subsequent monitoring.

Desired indicative payment rates for a selection of interventions were considered during the follow-up meeting and also in the questionnaire. Participants considered that payment rates could be 115% of the rates provided in the John Nix guide, which would allow for ongoing maintenance costs.

A table of suggested payment rates derived from the questionnaire is also provided.

1 Introduction

In September 2019 the Cotswolds Conservation Board let a contract to Red Kite Environment to undertake a test on the proposed Environmental Land Management Scheme (EMS) contained within the Agriculture Bill 2018. The Bill is the post-Brexit successor to the Common Agricultural Policy (CAP) for England, and ELMS is intended to replace the existing agricultural support mechanisms under Pillar 1, the Basic Payment Scheme (BPS), and Pillar 2, the rural development funding that includes Countryside Stewardship.

Leaving the CAP provides an opportunity to devise a new approach to agricultural support and agri-environment mechanisms tailored to England. Direct payments to farmers will be phased out in favour of a system of payments for public goods and services.

The Conservation Board is contracted by Defra to run this test. It is one of many tests and trials to be held throughout England that provide opportunities for farmers and land managers to help shape ELMS. The test aims to explore:

- how new and innovative approaches could be devised that are tailored specifically for the Cotswolds which will deliver both local and national priorities and;

- what farmers, foresters and land managers would require in order to deliver the priorities successfully.

This report is the output of a series of workshops and meetings with farmers and land managers held between November 2019 and February 2020. It was delivered to the Conservation Board at the end of February.

1.1 The test

The brief for this contract specified some clear requirements. These were to:

- Identify the national and local priorities and objectives for the Cotswolds AONB.

- Design, run and facilitate 4 workshops for a variety of farmers and other land managers across the Cotswolds AONB and collate participant feedback.

- Design a questionnaire for farmers and land managers to extend the reach of the test beyond the workshops.

- Hold a series of 1:1 and or small group meetings and/or telephone interviews to follow up and develop detail and explore more sensitive and business needs.

- Collate the results of the workshops, questionnaires, etc, make recommendations for inclusion in ELMS design and delivery and produce a draft report.

- Prepare and submit a final report to the Cotswolds Conservation Board.

It was also recommended in the brief to hold an initial meeting with a group of around ten farmers and land managers to help inform and design the four group workshops.

Initial research

We researched relevant documents and other sources of information, some suggested in the brief and others found through internet searches. The key documents were:

- Cotswolds AONB Management Plan 2018 – 23.
- Cotswolds National Character Area profile, NCA 107.
- Our Green Future: Our 25 Year Plan to Improve the Environment – the Government's 25-year environment plan.

Other documents are listed in the bibliography and are reviewed in Section 2 below.

From this research we developed a table of higher level goals, priorities and actions relevant for the Cotswolds AONB that would be the principal item for discuss in the pilot workshop. The table included a synthesis of 23 interventions that have potential for inclusion in an ELMS approach.

Pilot meeting

The pilot meeting of farmers and other land managers was held in November 2019. The aim of the meeting was to seek views on the higher level goals, priorities and actions table, to understand participants experiences with the current system under the CAP and to explore widely the opportunities that an ELM Scheme could provide. Participants at this workshop are listed in Appendix 2. The meeting was a first exploration of views about ELMS to help inform and design the four workshops for farmers and land managers to be held in January 2020.

A key finding at this meeting was that participants considered that the synthesis of interventions listed in the higher level goals table have all been included in previous schemes and that this represented little progress on previous schemes. They were familiar with the recommendations for landscape, wildlife and cultural heritage conservation and many of them had been including these in their Countryside Stewardship agreements for many years. Some participants felt that if this was all that would be included in ELMS then it would be no different from what had been done before.

Following this meeting we prepared a new approach to providing ELMS in the Cotswolds (Section 4) which we presented to the subsequent four workshops for farmers and land managers.

Four workshops

The four workshops for farmers and land managers were held at:

- Cold Ashton
- Pitchcombe
- Oddington
- Notgrove

At each workshop we delivered a presentation that included an introduction to ELMS by Mark Connelly and information about the ELMS test that included:

- What ELMS is intended to achieve.
- What we had found out already about ELMS, the existing CAP system and farmers and land managers perspectives of farming in the Cotswolds.
- The 23 interventions from the Higher Level Goals table.
- A summary of the NFU's vision for achieving net zero GHG emissions by 2040.
- An explanation of a potential approach for delivering ELMS in the Cotswolds.

Feedback from each workshop helped us to refine and modify the presentation and our questions, enabling us to widen the discussion throughout the series and explore different perspectives on the delivery of ELMS. This approach worked extremely well and resulted in a rich and varied response.

Follow up meetings

We had discussions through meetings and telephone conversations with individuals who provided expert advice and opinion on ELMS and our proposals. Participants are included in Appendix 2.

Final workshop

Following the workshops and other discussions a final workshop was held for a small group of farmers and land managers to discuss the following key issues:

- What should be included in a Land Management Plan? (for example, infrastructure, equipment, training or diversification opportunities)

- How could the creation of a LMP be accommodated within a single scheme and how could a baseline for the suggested desired outcomes be measured?

- What would be appropriate payment rates for ELMS to have sufficient take-up? For example, for hedge planting, creation of grassland, creation of arable margins, rebuilding dry stone walls, managing woodland, organic conversion of arable and grassland.

Questionnaire

A questionnaire was drawn up in SurveyMonkey and distributed by the Conservation Board to the National Farmers Union and other organisations to be placed on websites. The questions invited comment on key aspects of the current agricultural support and agri-environment schemes, and on our proposals for ELMS in the Cotswolds. The questions are listed in Appendix 3.

We received 37 responses to the questionnaire.

2 Background

Our thinking on the current system and its shortcomings, and the challenges of a new approach, has been guided by a wide-ranging literature review, of which some of the key elements are presented here.

Our starting point was the UK Government's 25-Year Environment Plan, in which it attributes some of the decline in soil carbon and in the loss of farmland species on the Common Agricultural Policy, stating that it:

"…has been one of the main drivers of land use and management over the last 45 years, and has caused significant environmental damage."[1]

Others attribute such damage to the drive for increased food production since the 1940's. Aglionby and Morris, for example state that this

"…has had a considerable impact on the environmental condition of our upland ecosystems. Intervention in one area has resulted in further interventions. For example, price support has led to environmental schemes to mitigate the unintended consequences of the former." [2]

Anticipating that a critique of the current system was likely to feature in any discussions with farmers, foresters and land managers, we familiarised ourselves as far as possible with its complexities by, for instance, reading the Rural Payments Agency's current 2019 rules for the Basic Payments Scheme[3].

It appeared to us that as well as defining strict time windows for interventions [key dates], the rules are somewhat inflexible and output focused, and are highly detailed in terms of what is allowed. For example, whilst land that is temporarily flooded is still eligible, if the flooding becomes permanent, for whatever reason, that land is excluded from basic payment [p19].

The rules on payments in ecological focus area payments are likewise technical and complicated, with a significant number of exceptions and conditions attached to them.

Additionally, there is a suite of rules on greening and on soils and water [such as the Cross-Compliance Rules to the basic payment scheme] that, whilst commendable, require a degree of focus. Important rules here include GAEC 5, which refers to soil erosion [pp18-26]; GAEC 6 to do with organic matter in soil [pp27-29] and GAEC 7 which addresses boundaries [pp28-32].

In its 25-Year Environment Plan, the Government states:

"We will support farmers to turn over fields to meadows rich in herbs and wildflowers, plant more trees, restore habitats for endangered species, recover soil fertility and attract wildlife back. We will ensure broader landscapes are transformed by connecting habitats into larger corridors for wildlife, as recommended by Sir John Lawton in his official review." [p7]

[1] HM Government [2018]: A Green Future: Our 25 Year Plan to Improve the Environment. Defra. 151pp. p36

[2] Aglionby J., and Morris R. [2015]: Better outcomes on Upland Commons. [Foundation for Common Land] 2nd Edition. 82pp.

[3] Rural Payments Agency [2019]: Basic Payments Scheme: rules for 2019. Defra. 127pp.

The Plan identifies ten goals and six key policy areas, most of which relate to land and its use.[4] The plan's first chapter focuses on sustainable land use and refers to *"designing and delivering a new environmental land management system"* and a natural capital approach to support its delivery. It commits to moving:

"…to a system of paying farmers public money for public goods. The principal public good we want to invest in is environmental enhancement."

Its scope is currently under some discussion. In the House of Commons debate on the Agriculture Bill, Michael Gove stated that:

"I am talking about clean air, soil quality and making sure that we invest in carbon sequestration, that farmers get supported for the work that they do to keep our rivers clean and our water pure, that the public have access to our glorious countryside and that the contribution that farmers make to animal health and welfare is recognised. We all benefit from those public goods, but, at the moment, our farmers are not adequately rewarded for them."[5]

The House of Commons library briefing paper on the Agriculture Bill[6] identifies a number of 'public goods' eligible for financial assistance [Table 2. p23/24]. These include tree planting, educational visits, maintenance of historic farm buildings, peatland restoration, soil management, disease control, and enhancing productivity.

The key delivery tool is ELMS, which the Government states

"…will incentivise and reward land managers to restore and improve our natural capital and rural heritage. It will also provide support for farmers and land managers as we move towards a more effective application of the 'polluter pays' principle (whereby the costs of pollution lie with those responsible for it)."

Importantly, a key element of ELMS is that it will *"...provide flexibility, putting more management decisions in the hands of farmers"* and that it will *"...aim to keep bureaucracy to a minimum, as well as design a more user-friendly application process."*

Linked to this, the Government has pledged to continue to invest in technical advice, and to work with landowners at landscape and catchment level, exploring where capital grants could support the adoption of long-term sustainable land management practices.[7]

Defra has made it clear that ELMS will be a contract to deliver public goods, alongside market products, that it ushers in a new relationship with land managers, and, importantly, that land managers will no longer be "customers of subsidy".

In its early review of the Government's new farming programme, the National Audit Office states that:

[4] *Ibid.* p10
[5] HC debate 10 October 2018. Hansard
[6] Coe S., and Downing E. [2018]: The Agriculture Bill (2017-2019). Briefing Paper CBP 8405. House of Commons Library. 93pp.
[7] *Ibid.* p37

"[Defra must] …decide what environmental outcomes it will reward, how it will pay farmers for them, how it will regulate the sector after leaving the EU, and then establish an operational structure and digital systems to deliver a new service to farmers." [8]

Against the background of the strategy and the Government's policy, our thinking was influenced by two other key documents of local relevance: The Cotswolds AONB management plan and Natural England's National Character Area profile 107.

The Cotswolds AONB Board asserts that:

"The Management Plan is a key mechanism for achieving the purposes of conserving and enhancing the natural beauty of the Cotswolds AONB…" [p15], and goes on to refer to the ambition *"…to secure the local design and delivery of a Cotswolds AONB package of agri-environment payments for public goods and services and rural development support."* [p29][9]

The management plan includes important relevant policies and objectives, such as policy CC4 assessing and building on natural and cultural capital and ecosystem services… [p39]. Policies CC5 and CC6 relate to soil and water respectively…[p40], while policies CC7 and CC8 refer to climate change mitigation and adaptation. These and other policies on biodiversity and landscape character are a critical factor in developing the scope of ELMS in the Cotswolds.

Of equal relevance is Natural England's National Character Area profile 107[10], particularly the four key statements of environmental opportunity [p42], highlighting how achieving these might impact on delivering 18 ecosystem services. These, and the ecosystem analysis [pp49-64] provided a baseline from which we developed the conceptual framework that was tested with farmers, foresters and land managers.

We also drew on documents from user groups such as the NFU, the Sustainable Food Trust, the Pontbren Farmer Project, the Pasture-Fed Livestock Association and the Royal Society for Agriculture. The NFU provides a useful conceptual framework based on three pillars:

- Improving farming's productive efficiency to reduce our greenhouse gas emissions – enabling farming to produce the same quantity of food, or more, with less inputs in smarter ways;
- Farmland carbon storage in soils and vegetation – improving land management and changing land use to capture more carbon, through bigger hedgerows, more woodland, and especially more carbon-rich soil;
- Boosting renewable energy and the bioeconomy to displace greenhouse gas emissions from fossil fuels and to create GHG removal through photosynthesis and carbon capture.

[NFU 2019 p6][11]

The Sustainable Food Trust expressed the significant concern:

"…about the possibility of significant areas of land being taken out of food production and given over entirely to nature conservation. For a country which is nowhere near self-

[8] National Audit Office [2019]: Early Review of the New Farming Programme. HC 2221 Session 2017–2019. 47pp.

[9] Cotswolds Conservation Board [2018]: Cotswolds AONB Management Plan 2018-2023. 78pp.

[10] Natural England's National Character Area profile 107

[11] Achieving Net Zero Farming's 2040 Goal. NFU. 2019

sufficient in terms of food production, this will either result in further increases in intensification on the areas remaining in production, or increased imports of food from countries with lower environmental and public health standards."

The Trust continued, by arguing that its preferred option:

"…for restoring lost natural and social capital, would be through a new area payment based on a whole farm management agreement, linked to the systemic adoption of farming practices which create a business case for producing high quality food whilst farming in harmony with nature." [p1][12]

These documents facilitated our thinking and resulted in the production of a table with recommendations, policies, objectives and actions.

[12] Sustainable Food Trust [2018]: Response to Health and Harmony: the future for food, farming and the environment in a Green Brexit. 25pp.

3 Key findings from the workshops

The five workshops provoked lively discussion, with participants eager to find out more about ELMS but also willing to provide their own views on what should be included in ELMS for the Cotswolds. After some initial reticence they welcomed the opportunity to express their perspectives on farming in the Cotswolds, on how the existing CAP support programmes work for them and the opportunities that ELMS might provide for support in the future. The main responses from these meetings are summarised below.

Texts in *italics* are quotes from the questionnaire.

3.1 Current agricultural support

The current system is too bureaucratic and too inefficient. There was much debate in the workshops about how it is difficult to work with, how it is inflexible with unclear outcomes and that it has draconian fines for non-compliance. Farmers also consider that there is little flow of information back to them about how well it is working and how it is benefiting the environment.

Advice and support provided for Countryside Stewardship was originally high quality and very effective. As the schemes have progressed and the funding for Natural England staff dedicated to Countryside Stewardship has declined the provision of advice and support has practically disappeared. During the workshops this was one of the dominant responses from participants. They considered that the success of any future scheme would be highly dependent on receiving high quality advice and support locally, from staff that were knowledgeable and understood both agriculture and environmental management in the Cotswolds.

It is difficult for farmers to get payments for some stewardship work. Although hedge planting is good for wildlife and soils, and helps to protect crops and shade livestock, it is not supported as new planting could replace dry stone walls that are a characteristic part of the landscape. The current scheme focuses on planting blocks of woodland, but hedge planting is often better for the farm, and for wildlife and soils. Also, there are payments available to establish wildflower rich grasslands but not for long-term management of those grasslands. Many farmers have ploughed up grasslands as they cannot afford to keep them maintained after the agri-environment agreement has ended.

A significant problem is the operation of the Rural Payments Agency (RPA). Payments are often not paid promptly and can be irregular. The website for making claims is difficult to use and mapping of land is inconsistent. For ELMS to work efficiently there needs to be a complete overhaul, or replacement, of the RPA. Payments for ELMS must be regular and on-time, with no default, and from one payment agency.

There will be a significant problem if the Basic Payment System (BPS) finishes and is not replaced with anything that can provide similar funds and resources. If not, many farmers consider that their businesses will fail. There is a danger that ELMS may not replace BPS sufficiently unless Stewardship payments are extended. Without BPS, or something equivalent, cereal production may become unprofitable.

The role of the CAP is to support the rural economy. The primary aim of ELMS should be the same. If it is over-weighted on ‘environment’ then farming for food production may become less sustainable. ELMS needs to be priced accordingly.

'We enter into these schemes in good faith but the monitoring of them by the RPA is very poor with unjust fines being made and the rules being altered once the agreement is signed.'

'Current BPS and CS schemes are good when effectively thought out to the individual farm. They are too complex and time consuming for most individual farmers to access themselves.'

'CS has so many faults. First you do not know when payments will be made. More importantly, based on the profit forgone basis, grassland becomes unattractive yet that is what we all know should be encouraged for better biodiversity, soil health, reduced flooding, purer water and climate change.'

'The principle of paying farmers merely for occupying farmland as under BPS is discredited and cannot be sustained into the future. The Stewardship schemes have been prescriptive and have not delivered. Similarly, at the end of schemes, often the benefits accrued over many years have just been lost by farmers ploughing in the pastures or stopping the management for which they had previously been paid.'

'Area based payments are a ridiculous idea. Carrot & stick is not as effective as proper engagement and buy-in; I have worked with too many farmers who sign-up to schemes with help but do not have a clue about what they are supposed to be delivering and feel unsupported after they are have been 'signed-up'.'

'Very complicated, bureaucratic and rigid.'

3.2 Farming in the Cotswolds

A key question is what sort of landscape does the public, and Defra, want for the Cotswolds. Traditionally, woodland in the Cotswolds would have had continuous cover with natural regeneration and no clear felling, and with mixed pasture and arable. The actions included for the Cotswolds in ELS and HLS of Countryside Stewardship support this, but the bureaucracy of the scheme has made it very difficult to achieve. The ELM Scheme should define a desired landscape, or at least some desired outcomes that would enhance both farming and the environment for public benefit.

Most of the Cotswolds, particularly north and east, is arable with thin soils. In some places the soils are only 5cm thick. These soils can often grow only cereals suitable for livestock feed. Soil quality is therefore an important issue in the Cotswolds. Most farmers are aware that soil health is declining and aware that there are only a limited number of harvests left (estimated at between 60 and 100) at the current rate of decline. Soil testing, though, can be difficult, with a variety of methods available and inconsistent results.

Livestock needs to be included more in agriculture to have a balanced, mixed farm. Farmers need also to be able to market high quality meat at a price that people can afford, and to sell it locally, including at local supermarkets. It is the quality of the produce that is important, and this relies also on the consumer being properly informed and educated about the benefits of quality produce.

Many farmers are keen to reduce using synthetic fertilisers and herbicides. They understand this is better for the environment and also uses less diesel and costs less. However, using less Glyphosate can result in requiring more ploughing which increases soil carbon release and diesel use. It is always a difficult balance of costs and incomes.

Some farmers grow legumes and herb-rich leys to increase soil nutrition and organic matter, and so are effectively reducing their dependence on synthetic fertilisers. Clearly, all organic farmers would be doing this anyway as part of improving soil quality without artificial fertilisers.

Increasing grassland cover is an obvious way of improving soils, either as herbal leys or establishing permanent grassland. Grassland that includes herb-rich seed mixes, particularly long rooted species, further improves soil organic matter and water infiltration. Incorporating mixed farming, with livestock, is the way to manage grassland.

Min-till and no-till techniques reduce or eliminate soil disturbance and help to build soil quality and increase carbon sequestration. Many farms, though, rely on Roundup to kill the vegetative cover before sowing, and there is a possibility that Glyphosate may be banned in Europe. Alternative methods may need to be sought to enable reduced tillage of soils.

Baseline data to assess the current condition of farms and woodlands and to evaluate their biodiversity is essential for ELMS to be monitored. Currently there is little baseline data available apart from that collected by FWAG for its farm projects. There may be difficulty in assessing land for its natural capital value when this is the basis for the ELM Scheme.

3.3 Public awareness

Increasing people's understanding of farming is seen by many farmers as an important part of their business. A more informed community makes better decisions about buying farm produce and about the role that farmers have in managing and protecting the farmed landscape. There needs to be a strong link between farms and schools. There is an existing online resource that supports farm visits for schools.

3.4 Water management

Water management is an important consideration for farmers and land managers. They understand the need to reduce flooding and water run-off, and to reduce the silt load in ditches and streams. There should be more awareness of the rules of water management on farms and to adhere to the polluter pays principle. There should be funding for the creation of water meadows and proper management of water courses.

3.5 Greenhouse Gas (GHG) Emissions

Climate change is a significant issue and many farmers and land managers are aware of its likely impacts for future generations.

Many farmers know about the Farm Carbon Toolkit, but few are using it. The Forestry Commission also has a carbon calculator for woodlands. Using techniques that measure carbon and then aiming to lower carbon use is not only good for the environment, but it reduces costs on the farm. It can also help to improve soil quality. An assessment of the carbon footprint of a farm could also open up opportunities for carbon offsetting.

Grassland, especially permanent pasture, is excellent for carbon sequestration. Increasing grassland cover lowers a farm's carbon footprint, improves soil quality and enhances

biodiversity. The NFU has produced a document[13] proposing that farming achieves net zero carbon emissions by 2040, including many recommendations for achieving this aim.

Tree planting would be supported by many farmers as a means of reducing emissions of GHG (see below). Planting Miscanthus is also an excellent crop for sequestering carbon.

> *'Make it easy, adaptable and attractive to join, so a lot of farmers / land managers will join the scheme in order to make a large environmental impact to alter the effects of global warming. If we do not act soon it will get even harder the longer we leave it…'*

3.6 Desires for ELMS

A major desire of farmers is to take back more control, and for them to make more of the decisions on what to do and how to do it. Farmers know their land really well and are in a good position to understand what their land can support. They would like the opportunity to draw up schemes, with help and advice, that are appropriate for their soils and their land's characteristics.

It is really important with any land management scheme to define targets and identify how these targets might be achieved. Any farm can implement individual management projects but they will be much more effective if they are part of a clearly defined long term plan with identified desired outcomes.

Many farmers are interested in having a mixed farm business but there are issues of TB and the risk of transmission by badgers that prevent them from considering taking on livestock. There are also significant costs associated with starting livestock farming, including fencing, barns, stock management, etc. Trees and hedgerows should be included in a mixed farming system to provide shade for livestock. Mob grazing should also be considered to encourage development of pasture and enhanced soil organic matter. Grants and payments therefore need to be accompanied by support and advice that can help steer farmers to achieve specific outcomes, with flexible inputs, that can be beneficial to the environment.

Tree planting is desirable in the Cotswolds and many farmers have undertaken tree planting schemes under HLS. The tree species must be appropriate, though, for Cotswolds soils, but tree planting should also include conifers, as well as broadleaves, to maximise profitability of the tree crop. However, the Cotswolds is essentially an open landscape and farmers would not want to see it change significantly by growing large numbers of trees. There is also concern that the market for long-lasting crops such as trees may change in the future. Agro-forestry is an opportunity and there is already at least one farm with an agro-forestry system.

Some farmers would like to plant trees on grasslands as it would be more valuable, though this would not be supported necessarily by Countryside Stewardship or conservation organisations. Planting on permanent pasture would definitely not be supported. There is likely to be a lot of support for woodland planting and the maintenance of existing woodlands among some farmers.

There needs to be a weighting in ELMS for connecting habitats and for building larger area projects, such as whole valley schemes running across several farms. Many farms already collaborate with others to share experience, skills and equipment. They can be encouraged through extra incentives to work together on larger land management schemes that may

[13] Achieving Net Zero Farming's 2040 Goal. NFU. 2019

have greater overall environmental impact. If ELMS is easy to use and is run effectively then it is likely larger schemes would be created more naturally.

Farmers want food labelling for produce coming from around the world. It should provide information on how it is grown and animal welfare conditions, so buyers can compare quality with UK produce. Farmers should be paid more for providing high quality food. There is a danger of US food flooding the market. Imports should be penalised if the standards of production are lower than those of the UK.

There is a growing market for organic produce. There is now much more organic food available in supermarkets but most of it is imported. There is an interest in converting to organic farming, but many farmers are reluctant due to high costs of conversion, the need to change equipment and machinery and, often, the need to maintain a steady income in order to repay mortgages and loans. An option for conversion to organic farming should be included in ELMS. There should also be an option for adopting regenerative farming techniques.

> *'We need to take people along with us. Show that the outcomes are achievable, and it is financially beneficial. So the environment, people's health and the financial returns are better.'*

3.7 Desires for the administration of ELMS

A crucial consideration with any land management scheme is to have high quality advice and support that is built into the scheme and is ongoing throughout the life of a land management scheme. Advice is needed to help farmers identify long term goals and build projects that achieve these goals. Advisors should be knowledgeable and understand farming and forestry.

The administration of ELMS needs to be simple with regional and local delivery. It should not be a competitive process or based on income foregone. If it is a contract, farmers would like to apply at any time rather than by a defined date. Farmers and land managers recognise they need to report on progress, though many farmers say that monthly progress reporting is difficult.

ELMS should be less prescriptive, and instead based on results (outcomes) rather than inputs. There need to be measures of success, though these may have to be proxy measures such as through the Farm Carbon Toolkit.

If the payment rates are adequate and sufficient advice and support are provided, then provided it is simple enough to apply for, it will be supported. As it is public money it needs to be accounted for and dispersed effectively. Schemes must include costs of changing farm equipment and machinery if needed. Opportunities for public/private partnerships should be explored, such as with water companies.

> *'ELMS must deliver an income to farmers for options that provide environmental benefits. This is the fundamental base to ELMS being viable, with other diversification, education, capital grants all additional benefits to enhance impact.'*

3.8 Summary of key points from the workshops

About the current system and ELMS

- The existing system is too centralised, bureaucratic, inflexible and narrow in scope.
- Advice and support were good originally, but as funding for staff was reduced the support disappeared.
- There would be a significant problem if BPS is not replaced by something that provides similar funds and resources.
- The role of CAP is to support the rural economy. The primary aim of ELMS should be the same. ELMS needs to be priced accordingly.
- Payments for ELMS need to be regular and on-time, with no default, and from one payment agency.
- Farms with poor quality land should not get more money than those with higher quality – it should be level ground.

About farming in the Cotswolds

- A lot of the Cotswolds is not very viable, with only 5cm of topsoil. Soil health is a significant issue.
- We are losing soils, and climate change is a big issue.
- Extensive mixed farming would be supported by many.
- We must think more about integrating forestry and pasture with arable.
- The Cotswolds is essentially an open landscape. Farmers would not want to see it changed significantly by growing large numbers of trees. Agri-forestry is an opportunity.
- Mob grazing should be considered more.
- There should be more awareness of the rules of water management on farms.
- There should be more support for organic farming.
- Regenerative farming techniques should be included in the scheme.
- There is a demand for quality produce.
- Carbon calculation is important, but few farmers are doing it.

About the delivery of ELMS

- There needs to be local delivery and administration of ELMS. It should not be a competitive process or based on income foregone. Payments must be regular.
- Provision of advice and support regionally and locally is considered to be absolutely essential for ELMS to succeed. Advisers should be knowledgeable and provide a continuity of support.
- If the money is right and sufficient support and advice is provided and it is simple enough to manage then it will be supported. It must also be profitable for the farmer.

'We as farmers are also business men, and want to reduce our impact and cost as far as we can, while conserving the landscape and environment that we enjoy.'

4 An outcomes-based approach for ELMS in the Cotswolds

4.1 Delivering ELMS in the Cotswolds

The workshops revealed a wealth of opinion and comment about farming in the Cotswolds and the opportunities that an ELM Scheme can present to replace the BPS and Countryside Stewardship. They also revealed firm views about the administration of a future scheme, that it must be **efficiently managed** with local administration and support, and provide high quality guidance to farmers to build schemes and to oversee their implementation. Providing effective support and guidance was as important, if not more important, than interventions on the ground.

There were also views that a scheme that simply provides funding for landscape and biodiversity enhancements would be meaningless if it failed to provide any clearly defined, long term beneficial outcomes for the Cotswolds landscape. It should be focused on clear goals and outcomes and allow farmers and land managers the flexibility to choose from a range of inputs to achieve clearly defined outcomes.

Based on our initial research and the pilot workshop, we suggested an approach for the delivery of ELMS in the Cotswolds that focuses on three **desired outcomes** – **enhanced soil health**, **reduced emissions of greenhouse gases** and **enhanced biodiversity and landscape management**. During the second series of workshops, suggestions were made to include a fourth desired outcome, **enhanced water management**, recognising that water management is becoming increasingly important with a changing climate. This was also a suggestion in responses to the questionnaire.

This approach would satisfy the demands for a system that provides public goods and services, but also offers farmers and land managers interventions that can benefit agriculture and enhance food production. Soil health and water management, in particular, are crucially important issues for farmers and land managers and any enhancement in their quality or management will be as important for the farm business as for the environment. This proposal, therefore, brings ELMS and agricultural and forestry management closely together as an integrated approach to land management.

Table 1 shows the four desired outcomes and a list of interventions to deliver the outcomes, derived from the list created for the pilot workshop (Section 1) plus other interventions that are more specific for each outcome.

The rationale for selecting the four desired outcomes is:

- **Enhanced Soil health** is clearly an important issue for the Cotswolds, with its thin soils. Farmers and land managers are aware of the decline in soil quality and that without a change in current systems of land management the quality of harvests will continue to decline. The interventions to achieve an improvement in soil quality would be of great value for the long-term productivity of the farm and also for the environment.

- **Reduced emissions greenhouse gases** (GHG) and sequestering carbon in the soil will be increasingly important issues for farmers and land managers. In the UK, 70% of the land is managed for agriculture, emitting 20% of GHG. Including a range of measures that would both reduce emissions of GHG and sequester carbon in soils would significantly help to reduce overall emissions of GHG by the agricultural sector.

- **Enhanced water management** is an important consideration for land managers. The thin Cotswolds soils erode easily and silt laden water flowing quickly off the land causes significant problems of flooding downstream. Retaining water in the soil through increasing organic matter and maintaining soil cover, and controlling runoff and siltation through installing leaky dams for example, can greatly enhance water management. Concerns about flooding in recent years and the likely impacts of climate change have greatly raised the profile of the need for improved water management.

- **Enhanced biodiversity and landscape management** will provide continuity from the current agri-environment scheme, with a focus on interventions that are specific for the Cotswolds. This is included as a separate outcome to the other three, even though many of the interventions will also contribute to enhancing soil quality and reducing GHG emissions, because there are land managers who may not want, or be able, to achieve the other outcomes. In particular, a forest owner or a farmer whose land has archaeological features, may choose this outcome as the best option for their land.

The table of desired outcomes shows how they are strongly interlinked, with many of the interventions clearly able to achieve more than just one outcome. For example, retaining and better managing hedgerows will enhance soil health by increasing organic matter in the soil, and will also help sequester carbon and enhance biodiversity. Similarly, maintaining soil cover with, say, a herbal ley, will improve soil organic matter, sequester more carbon, provide habitat for invertebrates and farmland birds and reduce water run-off.

Included in the list are three monitoring interventions that can help to provide baseline data and check on progress.

Table 1 Desired outcomes

ACTIVITY	Enhanced Soil health	Reduced GHGs	Enhanced Water Mgt	Enhanced biodiversity and landscape
Action				
Minimise soil disturbance, e.g. min-till and zero-till techniques				
Maintain soil cover – with crop residues, legumes				
Adopt crop rotation				
Introduce biodiverse pasture in the arable rotation				
Add organic matter, including livestock manure				
Minimise use of chemicals & synthetic fertilisers				
Plant trees and woodland, including wood pasture				
Retain, better manage, restore and plant hedgerows				
Conserve, manage and create wetland habitats				
Maintain and improve clean rivers and streams				

ACTIVITY	Enhanced Soil health	Reduced GHGs	Enhanced Water Mgt	Enhanced biodiversity and landscape
Transfer from grain-fed to pasture-fed livestock				
Reduce livestock to around 1.8 units per ha				
Incorporate holistic planned rotational grazing (mob grazing) schemes				
Use controlled-release fertilisers and inhibitors but aim to reduce or eliminate synthetic fertilisers and other chemicals				
Use feed additives to reduce methane emissions				
Improve cattle/sheep health to reduce emissions				
Use precision farming techniques for crops				
Reduce/prevent compaction through better machinery and livestock management				
Incorporate anaerobic digestion methods				
Better manage existing deciduous woodland				
Restore and create traditional orchards				
Create and manage wildflower rich grassland				
Conserve and manage commons				
Connect habitats – create integrated schemes for larger areas.				
Conserve and enhance habitats for farmland birds, including wild bird seed crops				
Protect and manage archaeological sites				
Conserve medieval field patterns, enclosures and rectilinear fields				
Conserve and manage traditional buildings				
Retain and restore drystone walls				
Protect and manage estate parklands, landscapes and veteran trees				
Maintain and enhance PRoW and provide additional recreational opportunities				
Raising public awareness by hosting school visits, and open farm and forest days				
Monitoring				
Monitor soil status through tests and apps				
Plan, observe, monitor and record impacts of new techniques				
Use Farm Carbon Toolkit				

Key

	Significant impact		Low impact		No impact

4.2 Definition of outcomes

We acknowledge that there is a potential difficulty in trying to define how these outcomes could be 'achieved'. We consider an ELMS outcome as being a 'a direction of travel' with 'milestones' that can be measured, much as in the term 'sustainable development', rather than a quantifiable state with an end point. The setting and achievement of the 'milestones' would be at the discretion of the adviser who would take into account the starting point, the degree of change, or the continuation of a 'desirable state'. It is beyond the scope of this contract to define these milestones but if this approach were to be adopted, they would need to be identified as the scheme is developed.

4.3 How it would work

Table 1 provides a structure for achieving the four desirable outcomes through a range of interventions. Working with an ELMS adviser, a farmer or land manager would choose a desired outcome, or series of outcomes, that would be appropriate for the land and for the farm business, or that would relate to their specific interests or ambitions for the land. A Land Management Plan would be drawn up, selecting a suite of interventions that would collectively work towards achieving the desired 'direction of travel' for the outcomes. These interventions would be the basis of the ELM Scheme for that property.

During the implementation of the scheme the focus would be the achievement of defined **milestones** towards the desired outcome(s). If specific interventions were found to be failing, or other interventions were considered to be more appropriate, the land manager would have the option to change interventions with the agreement of the adviser. The scheme would therefore maintain a degree of flexibility, allowing for a range of inputs that may change over time to achieve the desired outcomes.

A premium should be paid to farmers and land managers who work with neighbours to develop larger area schemes that connect habitats or integrate varied habitats over a large area. Examples could include developing belts of woodland across a number of farm and forest properties, and creating a water management scheme involving woodland and hedgerow planting, leaky dams, wetlands, permanent pasture and herb-rich lays along a valley catchment. Farmers and land managers should also be encouraged to work with other organisations, such as wildlife trusts, FWAG and the National Trust, to build partnerships that collectively can achieve more ambitious schemes.

Critical to this approach would be monitoring of the scheme. Each Land Management Plan must include a baseline assessment – for soil quality, carbon footprint, or biodiversity/landscape – and subsequent monitoring during the course of the scheme. The cost of the baseline assessment and the monitoring should be accounted for in the payment.

4.4 Responses to the desired outcomes approach

The approach received widespread support from participants of the workshops and a more mixed response from those completing the questionnaire. Those who supported the approach considered that the desired outcomes were valuable both for the quality of the land and for the benefit of the public. They felt the approach was suitable for the Cotswolds, but also more widely, and would be *'a good 'sell' to the general public as to where the funding was going'*.

Many considered that soil health is crucial to farm productivity and supported the notion of being paid for its improvement. Paying to reduce stocking density of cattle to around 1.8 units per hectare per annum would naturally help restore ecology. Other comments included 'excellent objectives', 'totally desirable in all points', 'good and appropriate for everywhere' and 'very much applicable'.

In the follow-up meeting with farmers and land managers it was suggested that 'stacking' of funding should be allowed, using sources of funding outside of ELMS. Opportunities could include funding from water companies for water management schemes, where the mix of funding could attract wider uptake and acceptability of the scheme. It may also create opportunities that would be more peripheral to ELMS but would still have significant public or environmental benefit.

Public awareness, including hosting visits by schools, is seen as being extremely important by many farmers. It is a significant 'public good' with a crucial purpose of educating and informing people, especially young people, about farms and food production and the value of quality produce, such as pasture-fed meat. There should also be visits hosted for specialist interest groups. Inclusion of varied public awareness programmes in ELMS would be important and supported by farmers and land managers, as long as it paid sufficiently for their time. Payments under Countryside Stewardship for school visits are currently received for sites in the Cotswolds, such as Cleeve Common.

A number of responders had reservations. One farmer felt that the monitoring of these outcomes would be very difficult. Soil health can be measured already but after a wet year more damage can be done in poor conditions just to meet a greening target. The weather dictates tillage practices, controlling how and where min-till can be implemented.

Another response highlighted *'that arable rotations involving grass leys will require grazing and currently most livestock enterprises are unprofitable and would require large capital investment in infrastructure'.* Farmers try to minimise soil erosion and cover soils, but it is not always possible to do this. The vagaries of pests, such as flea beetle that can decimate a crop, can mean that land is left bare. There are some 'easy wins' in the proposed scheme though, such as reducing stocking density, planting trees and hedges and landscape management which farmer should be able to achieve.

There was a recognition that soil health is important but that some farms will not be able to introduce pasture farming into an arable system, when the red meat market was already oversubscribed. However, some of the interventions, such as reducing emissions and using precision farming methods, are already being used by some farmers so rewards for continuing with these would be very acceptable.

> *Soil cover is incredibly subjective. I fully understand its importance and the requirement for it. However, we try and minimise soil erosion and cover our soils at every level of our farming operation and it's not always possible.'*

One response suggested that the total funding must be more than the alternative cropping or stock management, or a farmer should be able to farm 'normally' alongside any ELMS payment provided the aims are met. Most current CSS options prevent the land from being used for agriculture. If income from BPS is to be replaced by ELMS, a farmer needs to use or diversify the land at the same time.

There were also farmers who felt the proposed approach is much too complicated. It should be a simple system otherwise it would be too expensive to monitor. There were concerns too that those farmers who do not farm intensively would struggle to have more wildlife and

ecological improvements, and could be excluded from the scheme in favour of those who can produce improvements.

Other suggestions coming from the questionnaire include supporting the diversification of farms into food processing and direct food marketing, protecting old pasture grasslands and rough grazing.

> *'Very appropriate. First and second desired outcomes drive profitable farm business. Third relates to public goods – allowing general public to enjoy the area.'*

> *'We are in Higher Level Stewardship and already carry out walling and hedgerow management. We have to use hi-tech equipment to maintain profitability and we invest in new technology all the time. Soil health is always critical to arable farmers and we subscribe to a satellite soil service. We rotate crops more traditionally anyway in light of the increased weed and pest burdens. The outcomes are being achieved to a certain extent, but the scheme could be enhanced I'm sure, to have a bigger impact.'*

> *'They are appropriate, but the list needs to include establishing connectivity between habitats, not just hedges, so including field margins and even whole farm organic management. Walls are sometimes a huge cost distraction. there are key areas where walls have cultural, architectural and landscape significance but in other areas they are a hugely expensive anachronistic cost burden.'*

> *'Farms with land on floodplains could receive incentive for managing land to hold water as temporary storage to prevent flooding downstream.'*

> *'…build links with small scale producers and local communities (story of food, connection, local provenance).'*

> *'Flood water management. Stricter control over the operation of sewage treatment works and their outfalls. Also as regards the disposal of sewage sludge on land within the Cotswolds.'*

4.5 Tenant farmers

A significant issue is the impact of ELMS on tenant farmers. Many tenants have restrictive clauses in their tenancy agreements that restrict them to using their holdings for agricultural purposes only, making it difficult for them to access support under the 'public services' scheme without their landlord's consent. Even if consent were given, the Tenant Farmers Association (TFA) has concerns that landlords could use this leverage to secure unreasonable demands from tenants.

The revised Bill of February 2020 includes provisions dealing with this issue. It inserts a section into the 1986 Agricultural Holdings Act that enable tenants to request arbitration with disputes about reaching agreement with landlords in relation to receiving financial assistance, such as for public goods and services. The regulations will be reviewed as the new financial assistance schemes (such as ELMS) are rolled out.

5 Administration of ELMS

5.1 Delivering ELMS

It became abundantly clear during the workshops that the efficient administration of ELMS was the key to its take up by land managers, and its success as a support scheme. The key points arising from the consultation are:

- ELMS needs to be simple, with proper advice, allowing for a trustworthy and friendly relationship to develop between Defra (or the administrator) and land manager, with one document to complete and a fast agreement. Applications should be allowed at any time, not by a defined date. The agreement should be a contract, which should be respected on both sides.

- ELMS needs to be a single scheme run nationally, with a regional overview and local administration. The local administration is the one that most consultees felt was critical to the success of the scheme. It allows for a closer relationship between the management and the recipient and helps to build trust and reliability into the scheme.

- There should be expert local advisers with authority, who understand farming and forestry in the Cotswolds. The advisors would assist farmers and land managers to create an ELMS Land Management Plan and help with the application. These advisers would also monitor the scheme and provide ongoing support. The NFU recommends that the cost of these advisers should be additional to the total available for the scheme, as otherwise it reduces the amount available to farmers.

- A payment schedule should be included in each contract, as agreed between the adviser and the farmer or land manager in the Land Management Plan, which includes any payment for up-front costs for delivering the scheme, regular payments at defined times, and payments for achieving milestones for the agreed desired outcomes. The scheme should allow for ‘stacking’ of income sources without penalty.

- The local advisers should facilitate group meetings for scheme participants to discuss problems and facilitate option uptake. Contracts should be signed off at the local level. All options and interventions should then be verified before the payment window opens to avoid delay in payment.

- Inevitably, there will be some complexity in the scheme but this, and the necessary administration and monitoring, should be managed by the advisers and support service, while communicating and sharing information and advice in a simple way.

- There needs to be continuity with existing processes and mechanisms and a smooth transfer. BPS will start to phase out during 2021 and the ELMS needs to start being applied to replace the BPS funding. All existing agreements must be honoured and transferred smoothly to the new scheme. Many consultees suggested that the existing programme for introduction of ELMS is too tight and should be delayed by at least a year to allow for proper transfer from BPS to ELMS to avoid a gap with reduced, or no, funding.

- Farms and land managers need high quality baseline data to measure the benefits of the scheme, to provide an evidence base on paper as well as in the field. Updated information needs to be uploaded annually for each agreement and a pre-populated ELMS form provided to assist the land manager.

- Mapping is another crucial part of the new scheme. Farmers consider that the mapping undertaken for Countryside Stewardship has been very poor, while forestry has been mapped, by the Forestry Commission, separately from agriculture. Currently, maps are derived from satellite images and are often out of date. Mapping must be improved considerably for farmers and land managers to be attracted to the scheme.

- There should be no discrimination against a farm that is currently well managed. It should be eligible for as much payment as a farm that needs to be brought up to a better standard of environmental care.

- The length of the scheme is a crucial factor. There needs to be long term support provided, particularly for projects such as tree planting or creating species-rich pastures. At present, funding for grasslands, for example, expires after 15 years. The long-term support must also have flexibility to allow for any changes in management that would benefit achieving the overall outcomes.

  'Payments on time and regularly, a good support network behind the scheme that understands how it operates so that questions are not pushed from pillar to post as no one knows the answer. More on the ground help in finding areas of maximum natural benefit for habitat creation.'

  '…some of us already have very extensive nature-rich holdings, and we should not be excluded from payments in favour of those 'green deserts' for whom improvement is possible and obvious.'

  'High standards for the food we produce to generate higher margins to sustain the higher standards, very simple really.'

  'Measurement of how much carbon is sequestered in the soil.'

  'A local dedicated team to assist in the management, monitoring and support of those who enter into the scheme.'

5.2 What should be included to deliver the scheme successfully?

The drawing up of a Land Management Plan under ELMS will involve an assessment of the business, which may identify significant changes in how the land would be managed and the need for equipment and other materials for successful delivery. Participants of the workshops felt strongly that the cost of changes in infrastructure, or the equipment needed to implement a scheme, should be included in the Land Management Plan.

If interventions chosen to enhance soil health included changing to a mixed farming regime there would be significant costs for control of livestock, which could include wire and electric fencing, gates, tracks, water supply and the repair of hedgerows. There would also be costs for housing and watering livestock, such as repair of barns and sheds, provision of other shelters, and provision of dewponds, troughs and piping. For reducing tillage there could be costs for drills or direct drilling. Some equipment could be provided through machinery groups or farm clusters and the costs could then be shared among a number of farms. Training in the best use of technology was also mentioned by participants and questionnaire respondents.

Farmers who had applied to the Leader programme in the Cotswolds for infrastructure and equipment have had positive experiences and would wish this type of funding to continue.

The costs of contractors should also be included in the scheme. The contractors themselves would not be eligible for ELMS but the farmers and land managers who use them would need to include costs that take account of their needs for new machinery and equipment. Contractors would also need to upskill to meet the potential demand.

Crucial to the establishment of a scheme would be the initial environmental audit, which would include the cost of specialists to gather baseline data. This should be linked to mapping of the property. Subsequent surveys should be undertaken throughout the course of the scheme to assess progress, and the cost of this, too, should be included in the scheme. Monitoring would be important for Defra in evaluating the success of a scheme, but it is important also for the farmer or land manager to help feel satisfaction that the project is succeeding.

There may be an issue about reporting and publishing of data, such as for wildlife. Some farmers may not want information to be published about increased wildlife on their farms lest it may attract more people and encourage trespassing. A solution would be for data to be anonymised for a group of farms or for larger areas.

The cost of the initial environmental audit should include costs for soil sampling and using the Farm Carbon Toolkit. These should be a requirement as a critical first step in starting an ELM scheme.

> *'Some sensible rules and conditions that commercial farming business can adapt to without too much difficulty. The public good should be balanced with sustainable and profitable farming.'*
>
> *'The No-Till system requires support in trying to get the right system in place because it is an extremely new way of growing…It is tricky to get the right species and varieties to match up with your own farm's topography…'*
>
> *'Payment for public goods at the right level to be attractive over agricultural return is always going to be the critical incentive. This needs to be coupled with advisers such as FWAG to help administer what needs to be a complex system. It must also be coupled with a fair agreement with government and a work together attitude to get the results the planet needs.'*
>
> *'Educational links with the landscape and farms; using the opportunity to create positive engagement with the changes being undertaken.'*
>
> *'Local abattoirs to help build connection and reduce food miles. (soil health and reduced GHG.) Proper joined-up information explaining how ELMS will deliver benefit in a way that is not mutually exclusive but part of the bigger picture of sustainability: soil health, crop health, animal health, nutritional benefit, human health, wildlife benefit, wellbeing etc., etc - all intertwined.'*

5.3 A phased approach

A suggestion from the NFU was that ELMS could be phased, with a simple first phase of options that all applicants should deliver, and subsequent phases that deliver on the desired outcomes.

The phases could have the following structure:

Phase 1 – Baseline data – basic payment to raise awareness about keeping carbon in the ground

- Soil organic matter test
- Farm carbon test
- Baseline assessment – environmental audit and mapping

Phase 2 – Basic soil health improvement, reduced GHG emissions and enhanced biodiversity and landscape management – increased payment for further sequestration of carbon

- Increase soil organic matter (SOM)
- Enhanced woodland management
- Water management – leaky dams
- Etc

Phase 3 – Advanced schemes

- Other, more complex, interventions
- Larger area schemes

The rationale for this approach is that Phase 1 is a relatively simple, but crucial, start-up that could be delivered by a farmer or land manager with a payment for analysis and audit. This payment would help with the transition from the BPS. It also provides the basis of information in order to create the Land Management Plan. Phase 2 then begins to deliver interventions aimed at achieving identified desired outcomes. Phase 3 would see the delivery of more complex schemes, perhaps involving multiple farms in larger landscapes.

5.4 Payment rates

Estimating payment rates for all the interventions in Table 1 would involve a considerable amount of consultation that was beyond the capacity of this contract. However, the issue of payment rates was discussed in the follow-up meeting with farmers and land managers and a question was included in the questionnaire seeking indicative rates for six sample interventions.

Participants at the meeting said that some of the interventions could be costed from the John Nix guide[14]. A better approach to assessing payment rates, particularly for interventions such as planting hedgerows and restoring stone walls, would be to quantify payment as, say, **115% of actual cost**, to allow for ongoing maintenance and as an incentive for the land manager (both owner and tenant). This order of payment also recognises its value for wildlife, landscape or carbon sequestration.

For many of the interventions a calculation of payments rates should be based on a listing of the principles of costs that should include:

- Initial implementation
- Subsequent management
- Deer and squirrel management, if necessary
- Monitoring and surveys
- Assessment of carbon sequestration

[14] John Nix Pocketbook for Farm Management, September 2019

- Reporting on, and valuing, impact and contribution towards achieving desired outcomes

Some items, though, are much more difficult to cost, such as the creation of herb-rich grassland. This would need to include:

- The value of a reduced crop of barley, or other crop, for two years
- Seed mix, with sowing, slot planting, etc
- Fencing
- Lost value of zero production of harvest from land
- Ongoing management
- Establishing grazing herd if necessary
- Monitoring and surveys
- Recording impact of ELMS in achievement of outcomes
- Reporting

'High conservation value leads to significantly lower productivity and much higher management costs. The combination of Stewardship and single farm payment covered this, with single farm payment subsidising stewardship costs.'

'We need to be able to have multiple income streams from the same piece of land. Most current CSS options mean we can't do anything else on that land. We need to replace the income from BPS that is being removed by entering into elm schemes but be able to farm or diversify that land at the same time.'

The questionnaire offered six sample interventions. Responses for payment rates are shown in **Table 2**.

Table 2 Payment rates from the ELMS questionnaire

Green boxes have the peak suggested payment rates.

Action	Payment rates £									
	10	25	50	75	100	250	500	750	1000	2500
Hedge planting, £ per m	17%	57%	10%	13%	3%	-	-	-	-	-
Rebuilding DSW, £ per m	-	-	15%	15%	27%	31%	12%	-	-	-
Create herb-rich pasture, £ per ha per yr	-	-	-	4%	11%	36%	32%	11%	6%	6%
Create arable margins, £ per ha per yr	-	-	7%	4%	14%	25%	40%	7%	3%	-
Manage woodland, £ per ha per yr	-	4%	17%	4%	21%	30%	13%	-	13%	-
Organic conversion of arable and grassland, £ per ha per yr	-	-	-	5%	-	64%	14%	14%	-	5%

6 Cotswolds ELMS summary

6.1 The principles of the Cotswolds ELMS approach

ELMS in the Cotswolds should be based on four desired outcomes:

- **Enhanced soil health** for long-term improvement of agricultural land and for the environment.
- **Reduced emissions of greenhouse gases** and sequestering carbon in soils.
- **Enhanced water management** to protect soils and reduce water flow from the land.
- **Enhanced biodiversity and landscape management** to provide more diverse habitats and protect landscape and historic features.

6.2 How it would work

- A farmer or land manager can aim to achieve these outcomes by adopting a **programme of interventions**, many of which can achieve multiple outcomes. The list of outcomes and interventions is provided in Table 1.
- The farmer or land manager can choose a **desired outcome**, or outcomes, and then select a programme of interventions that are appropriate for the land, for the farm business, or for their specific interests or ambitions for the land. The outcomes and interventions would be included in the Land Management Plan.
- The focus of ELMS would be the **measurement of the 'journey' towards desired outcomes**. Interventions could be changed during the scheme if some were found to be failing or others considered to be more appropriate.
- Additional payments should be made for **larger area schemes** involving groups or clusters of farmers and land managers for schemes that integrate and connect habitats and for valley catchments to retain water.
- The scheme would rely on undertaking a **baseline assessment** of soil quality, carbon footprint and biodiversity/landscape, and **regular monitoring**. The costs for assessment and monitoring should be included in the scheme.

6.3 Delivery of ELMS

- ELMS should be a **single scheme** run nationally, with a regional overview and local administration. The application should involve completion of one document and the signing of a contract committing both sides to the agreement.
- ELMS should be supported by **expert advisers** with authority, who understand farming, forestry and environmental management in the Cotswolds. The advisers will work with farmers and land managers to build schemes by assisting with the preparation of a

business assessment and a **Land Management Plan**, assisting with the application and monitoring progress.

- A **payment schedule** should be included in the contract to include payments for up-front costs, regular payments and payments for achievement of 'milestones' towards the desired outcomes. The scheme should allow for 'stacking' of income sources without penalty.

- The advisers should facilitate **group meetings** for scheme participants to share knowledge and experience.

- There needs to be **continuity with existing BPS and CSS**, with a smooth transfer.

- There needs to be **high quality mapping** of the land, which would be included in the Land Management Plan.

- ELMS should provide **long term support**, particularly for tree planting and pasture creation.

6.4 What should be included?

The payments should include the following:

- The costs of **changes in infrastructure** needed to implement a scheme, for example for fencing, gates, water supply and repair of hedgerows.

- The costs of **machinery and equipment** required to implement a scheme, either for individual farms and properties or shared among a group of farms.

- The cost of **contractors** who may be needed to deliver parts of a scheme, and these costs will need to take account of their needs for new machinery or equipment.

- Charges for the **baseline assessment** and subsequent monitoring.

6.5 Phasing

ELMS should have a phased approach comprising:

Phase 1 – Baseline data – basic payment to raise awareness about keeping carbon in the ground.

Phase 2 – Basic soil health improvement, reduced GHG emissions and enhanced biodiversity and landscape management

Phase 3 – Advanced schemes

> *'It is a huge opportunity to link the landscape together and be creative, and make a difference. Working together with a unified approach is key.'*

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Appendix 1 Higher level goals/policies/actions

HIGHER LEVEL GOALS/POLICIES/ACTIONS			
NCA 107 STATEMENT OF ENVIRONMENTAL OPPORTUNITY	**AONB MANAGEMENT PLAN POLICIES**	**25-YEAR ENVIRONMENT PLAN, POLICIES, ACTIONS AND GOALS**	**SYNTHESIS**
Protect and enhance the highly distinctive farmed landscape, retaining the balance between productive arable, pastoral and wooded elements and the open, expansive views particularly from the scarp, high wold and dip slope. *Protecting the contrasts in character...by using their defining characteristics to inform…particularly through the use of agri-environment schemes.* *Assisting the maintenance of distinctive farming patterns…* *Managing and restoring the nationally important parklands, estate landscapes and ancient orchards, highly characteristic of the south-eastern dip slope…* *Maintaining, enhancing and restoring drystone walls… Maintaining and reinstating hedgerow management, including laying and coppicing existing hedgerows, and new hedgerow tree planting where appropriate on the dip slope and scarp.*	**CE1** Landscape character should be a key component of future agri-environment, land management and rural development support mechanisms in the Cotswolds AONB… Rural skills training and the utilisation of those skills will be promoted… [indicator 13] **CE8** Rural land management in the Cotswolds AONB and in the setting of the AONB should have regard to – and help deliver – the purposes of conserving and enhancing the natural beauty of the AONB and increasing the understanding and enjoyment of the AONB's special qualities…	**Focusing on woodland to maximise its many benefits…** *Supporting larger scale woodland creation* *Increasing woodland in England in line with our aspiration of 12% cover by 2060: this would involve planting 180,000 hectares by end of 2042.* *Ensuring that food is produced sustainably and profitably.*	• **Manage existing deciduous woodland.** • **Plant trees and woodland, in keeping with the Cotswold landscape.** • **Restore and create traditional orchards.** • **Retain and restore drystone walls.** • **Retain, manage and restore hedgerows.** • **Protect and manage estate parklands, landscapes and veteran trees.**
Safeguard and conserve the historic environment, cultural heritage and geodiversity that illustrate the history, evolution, foundations, land use and settlement of the Cotswolds landscape, and enable access to and interpretation	**CE2** The geological features of the Cotswolds AONB should be conserved and enhanced through effective management [indicator 14]	*Safeguarding and enhancing the beauty of our natural scenery and improving its environmental value while being sensitive to considerations of its heritage.*	• **Protect and manage archaeological sites.** • **Conserve medieval field patterns, enclosures and rectilinear fields.**

of the relationship between natural processes and human influences. *Encouraging arable reversion to grassland and sensitive scrub removal where current land cover and use threaten the integrity of important earthworks and remains…* *Conserving and interpreting archaeological earthworks and sub-surface archaeology…* *Restoring and conserving the medieval field patterns, the open commons and piecemeal enclosures strips on the scarp, the large rectilinear fields of the wolds and the smaller enclosed pastoral fields of the valleys and dip slope.* *Maintaining and reinstating management of small woodlands, windbreaks and copses…* *Promoting access to the natural environment across the area…* *Maintaining the diversity of geology and traditional buildings that contributes to the National Character Area… Conserving, managing and enhancing the nationally and locally important geological and geomorphological sites and features…* *Supporting the role of the Cotswolds Conservation Board's activities to improve wider partnership in delivery and management across the AONB and the NCA, such as improving access, signage and interpretation to ensure a high-quality visitor experience.*	**CE6** Historic Environment and Cultural Heritage should be a key component of future agri-environment, land management and rural development support mechanisms in the Cotswolds AONB. [indicator 18] **UE2** A safe, pleasant, accessible, clearly waymarked and well-connected Public Rights of Way network should be maintained, enhanced and promoted across the Cotswolds AONB. [indicator 30] [indicator 31]	*Making sure that there are high quality, accessible, natural spaces close to where people live and work, particularly in urban areas, and encouraging more people to spend time in them to benefit their health and wellbeing.*	• **Conserve and manage traditional buildings.** • **Conserve and manage commons.** • **Conserve and manage geological and Geomorphological sites and features.** • **Maintain and enhance PRoW and provide additional recreational opportunities.**
Protect, maintain and expand the distinctive character of the Cotswolds and the network of semi-natural and arable habitats, including limestone grassland, beech woods and wetlands along streams and rivers, to enhance	**CC8** Climate change adaptation should be a key component of land management practices and	**Protecting and recovering nature…***Providing opportunities for the reintroduction of native species… Exploring how to give individuals the chance to deliver*	• **Manage wildflower rich grassland.** • **Create wildflower rich grassland.**

water quality, strengthen ecological and landscape connectivity, support rare species and allow for adaptation to changes in climate. *Protecting species-rich grasslands in favourable condition… restoring limestone grassland and unimproved pastures… create a mosaic of habitats with limestone grassland…* *Protecting and enhancing and seeking to re-introduce sustainable management of ancient woodland… Targeted planting of woodland buffers to existing woodland or new woodland copses, and regenerating and restoring existing woodland… Seeking and realising opportunities to reinstate hedgerows, and hedgerow trees, where they have been lost… Managing and restoration of ancient semi-natural beech woodland and small mixed oak woodlands on the scarp and valley slopes and dip slope…* *Managing springline habitats, fens, wet flushes, winterbornes and wet meadows… river systems and associated flood plains on the dip slope…* *Promoting the conservation of farmland birds and arable weeds; ensuring that a network of corridors is provided for the movement of species across farmland; retaining the cultural value of flocking and singing birds.*	future agri-environment, land management and rural development support mechanisms in the AONB… **CE9** The population of grey squirrel and deer in the Cotswolds AONB should continue to be controlled and managed… National and local guidance… on invasive non-native species, pests and diseases should be followed and appropriate biosecurity measures promoted. [indicator 23] **Appendix 8** Priority habitats and species [indicator 20] [indicator 21]	*lasting conservation… Improving biosecurity to protect and conserve nature…* *Restoring 75% of our one million hectares of terrestrial and freshwater protected sites to favourable condition, securing their wildlife value for the long term.* *Creating or restoring 500,000 hectares of wildlife-rich habitat outside the protected site network, focusing on priority habitats as part of a wider set of land management changes providing extensive benefits.* *Taking action to recover threatened, iconic or economically important species of animals, plants and fungi, and where possible to prevent human-induced extinction or loss of known threatened species in England…* *Managing and reducing the impact of existing plant and animal diseases; lowering the risk of new ones and tackling invasive non-native species.* *Maximising the value and benefits we get from our resources, doubling resource productivity by 2050.* *Continuing to cut greenhouse gas emissions including from land use, land use change, the agriculture [sector].* **Maximising resource efficiency and minimising environmental impacts at end of life…** *Reducing food supply chain*	• **Conserve, manage and create wetland habitats e.g. springline habitats, wet flushes and wet meadows.** • **Conserve and enhance habitats for farmland birds.** • **Reduce greenhouse gas emissions.** • **Maintain and improve clean rivers and streams.** • **Plant trees outside woodland to replace ash with dieback.**

		emissions and waste… Reducing the impact of wastewater…	
Safeguard and manage soil and water resources, allowing naturally functioning hydrological processes to **maintain water quality and supply; reduce flooding; and manage land to reduce soil erosion and water pollution** and to **retain and capture carbon.** *Maintaining and restoring hedgerow boundaries characteristic of the valleys and scarp and associated field patterns, especially where these help control cross-land flows, prevent soil erosion and nutrient leaching.* *Restoring and enhancing remnant wetland habitats, including springline marsh at the foot of the scarp and rare patches of valley mire and fen meadow in the valley bottoms…* *Creating grassland buffer strips verges running across slopes to provide a buffer to soil erosion and nutrient run-off in areas of arable production…*	**CC5** Soil degradation should be halted and reversed… [indicator 9] **CC6** Water resources should be carefully managed and conserved… [indicator 10] **CC7** Greenhouse gas emissions should be reduced…	**Improving how we manage and incentivise land management…** *Introducing new farming rules for water…. Working with farmers to use fertilisers efficiently… Protecting crops while reducing the environmental impact of pesticides* *Reaching or exceeding objectives for rivers, lakes, coastal and ground waters that are specially protected, whether for biodiversity or drinking water.* **Improving soil health and restoring and protecting our peatlands…** *Improving our approach to soil management: by 2030 we want all of England's soils to be managed sustainably, and we will use natural capital thinking to develop appropriate soil metrics and management approaches.* **Reducing risks from flooding and coastal erosion…** *Expanding the use of natural flood management solutions* **Respecting nature in how we use water…***Reforming our approach to water abstraction* **Reducing pollution…** *Minimising the risk of chemical contamination in our water*	• **Conserve and manage the quality of soils.** • **Reduce soil erosion and water pollution.** • **Reduce environmental impacts of fertilisers and pesticides.** • **Help reduce flooding.**

Appendix 2 Workshop participants

Pilot workshop

Farmer
Farmer
Forester
Farm manager with Gloucestershire Wildlife Trust
Forester
Equestrian manager
Farmer
Farmer
Farmer

The four workshops

Cold Ashton

FWAG
Farmer
Woodland Consultant
Bristol Avon Partnership
Freeholders Association, commoner
Emorsgate Seeds
Emorsgate Seeds
Farmer, Marshfield
Farmer

Pitchcombe

Farmer, Waterely Bottom
Farmer, Waterley Bottom
Farm consultant
Farmer and grazier
Farmer and grazier
National Trust area manager
Small holder and grazier
Tenant farmer
Tenant farmer
Reserves Manager, Cotswolds Commons and Beechwoods
Farmer
FWAG
Farmer
Farmer

Oddington

Defra
Land agent
Farmer
Farmer
Land agent, Strutt and Parker
Land agent, Saviles

Farm Consultancy Group
Farm Consultancy Group
Organic farmer
Farmer
Farmer
Farmer
FWAG
Fisheries consultant
Farmer
Farmer
Farmer
Farmer
Farmer

Notgrove

Farmer
Farmer
Farmer
Farmer
Farmer
Farmer
Farmer
Manager, Cleeve Common, NE
Farmer
Farmer
Cleeve Common
National Trust
Farmer
Farmer
Farmer
Farmer

Farmer
Farmer

Follow up meeting

Forester
Farmer
Farmer
Cleeve commoner
Farmer

Individual meetings

Farmer
Farmer
Founder and former chair, Pasture Fed Livestock Association
National Farmers Union
FWAG

Questionnaire

There were 37 responses to the questionnaire (of which three had previously attended a workshop).

Appendix 3 Questionnaire

SurveyMonkey questionnaire for farmers and land managers, distributed by the Gloucestershire NFU and other organisations.

1 What are your views on the **delivery** of the current Basic Payments Scheme and Countryside Stewardship Scheme?

2 A potential framework for an ELM Scheme in the Cotswolds that would deliver national and local priorities is to base it on three inter-related **desired outcomes**.

- **Enhanced soil health** – eg by maintaining soil cover, adopting crop rotation and adopting mixed arable and pasture farming.
- **Reduced greenhouse gas (GHG) emissions** – eg by improving livestock health, reducing diesel use and using precision farming techniques.
- **Enhanced biodiversity and landscape management** – eg by planting and managing hedgerows, protecting archaeological sites and restoring dry stone walls.

How appropriate do you think these desired outcomes are for ELMS in the Cotswolds?

3 Are there other **desired outcomes** that you think could be included for ELMS in the Cotswolds?

4 In delivering these outcomes, what would you **require** for the scheme to be delivered successfully? This could include infrastructure, equipment, training or diversification opportunities?

5 What do you think is needed to overcome any **barriers** to delivering the ELM Scheme?

6 What do you think is the best way to **administer** the ELM Scheme, through local, regional or national administrative systems?

7 What would be desirable payment rates for delivering the following sample options? Please click on a rate for each row.

- Hedge planting
- Creation of grassland
- Creation of arable margins
- Rebuilding dry stone walls
- Managing woodland
- Organic conversion of arable and grassland

8 What are the best ways to link ELMS with food production?

9 Do you have any further comments about ELMS in the Cotswolds, including any other innovative ideas about delivering environmental outcomes?

10 Are you a farmer, forester, equine manager, land conservation manager, other?

Appendix 4 New and innovative ideas

A key objective of this study was to identify 'new and innovative ideas and mechanisms and how they could be measured'. The list below summarises the recommendations and approaches identified in this report.

- The approach is based on 4 outcomes, which is an understandable 'sell' to the public.
- It is flexible and adaptable without penalty.
- There are long-term goals.
- It provides the farmer and land manager with more control – they know their land and what it can support.
- It defines targets and how they can be achieved.
- It includes a variety of interventions including:
    - Hedgerow trees – as shade for livestock.
    - Mob grazing
    - Agro-forestry
    - Conversion to organic
    - Grass leys as part of soil building
    - Precision farming and min-till
- There is a weighting for connecting habitats and for larger land management schemes.
- Applications can be made at any time, not by a defined date.
- Includes proxy measures such as through Farm Carbon Cutting toolkit.
- Includes costs for changing farm equipment (to deliver objectives).
- Payments to reduce livestock to around 1.8 units per Ha.
- The scheme should allow for stacking with no penalty.
- It has clearly defined, long-term beneficial outcomes for the Cotswolds.
- It rewards GHG reduction.

Summary of Table 1 and Section 5.1

- Setting and achievement of the milestones would be at the discretion of the adviser, taking into account the starting point, the degree of change or the continuation of the 'desirable' state.
- If interventions are failing, or others are considered more appropriate, the farmer/land manager should have the option to change with the agreement of the adviser.
- Total funding must be more than the alternative cropping or stock management.
- It should be possible to farm 'normally' alongside ELMS payment if aims are met.
- The approach supports diversification into food processing and direct marketing, protecting old pastures and rough grazing.
- There is a premium to work with neighbours to develop larger schemes.
- The Land Management Plan should have baseline assessment/audit – paid for as part of the scheme.
- The scheme includes the costs of monitoring.
- It includes public awareness events and visits from specialist interest groups as part of educational visits.
- Costs include changes in infrastructure and/or equipment to implement scheme.

Prepared for the Cotswolds Conservation Board by

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and

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We would like to offer our thanks to everyone who provided the information and insights that enabled this work to be carried out. Any errors and misinterpretations in the report are in good faith and remain our responsibility.

Red Kite Environment
March 2020