Department
for Environment
Food & Rural Affairs

Environmental Land Management tests and trials

Quarterly evidence report

Date: July 2020

We are the Department for Environment, Food and Rural Affairs. We're responsible for improving and protecting the environment, growing the green economy and supporting our world-class food, farming and fishing industries.

We work closely with our 33 agencies and arm's length bodies on our ambition to make our air purer, our water cleaner, our land greener and our food more sustainable. Our mission is to restore and enhance the environment for the next generation, and to leave the environment in a better state than we found it.

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Any enquiries regarding this publication should be sent to us at

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Contents

Defra has compiled and written the reports and it is not official policy.

Introduction: Taking a collaborative approach to ELM design

The Health and Harmony consultation in February 2018 set out Defra's approach to co-design the new Environmental Land Management (ELM) scheme. Taking this collaborative and iterative method to policy development has enabled us to work with farmers and land managers to harness ideas and delivery solutions, whilst also helping to prepare the sector for change as we move away from the Common Agricultural Policy towards a system of 'public money for public goods'.

The aim of the ELM Tests and Trials programme is to enable Defra to work with stakeholders to understand how critical building blocks of the new scheme could work in a real-life environment, with different user groups and across different geographies. This also provides an opportunity to trial new or innovative approaches to understand if and how they could be used within the new scheme. A key benefit of this approach is that it provides Defra with real-time evidence to help shape the policy and delivery framework. The learning from tests and trials will add an explorative, on-the-ground evidence source to inform the scheme design, alongside wider Defra learning from previous agri-environment schemes, approaches taken in other countries and, the forthcoming ELM National Pilot.

At the time of writing we have 57 Test and Trials underway (see Annex A), with two of these having recently concluded, putting us in a good position to start to set out what we've learned to date. The purpose of this document is to **share the key findings arising so far**, to the end of May 2020. It is the first in a series of quarterly reports as we continue to progress the Tests and Trials programme. It collates key learning points from individual tests and trials, alongside discussion points from our first round of quarterly Thematic Working Groups, which brought participants together to share their learning. We intend to hold Thematic Working Groups every 3 months, with the next quarterly report to follow shortly thereafter. This report has been compiled by the Defra ELM Tests and Trials Team and is intended as a collation exercise rather than an analysis or evaluation report.

This report provides a short overview of progress to date and a summary of the key findings under each of our six priority themes:

- **Land Management Plan** - what would be included in a plan, how long it should be and what information is needed to support the land manager or farmer
- **Role of Advice and Guidance** - the level and role of advice and guidance that land managers and farmers would need to put together a plan
- **Spatial prioritisation** - to test mechanisms to identify and agree local priorities
- **Collaboration** - to test how different mechanisms of collaboration would work to deliver environmental outcomes

- **Payments** - to test different approaches to valuing environmental outcomes and how these might work in practice
- **Innovative delivery mechanisms** - how these could be rolled out more widely and in what circumstances. For example, trialling payment by results and reverse auctions

Progress to date and next steps

The ELM Tests and Trials programme was launched in Autumn 2018 and has been run in two phases, with over 300 applications indicating a high level of interest from stakeholders. At the end of May 2020, we have 57 tests and trials underway, with two of these now completed.

Stakeholders engaged in ELM Tests and Trials include farmer-led groups, membership organisations, conservation charities and Defra group-led projects. We also have coverage across England and different land types, as outlined in the map below. Through our tests and trials, we have engaged nearly 3,000 farmers and land managers across a range of sectors.

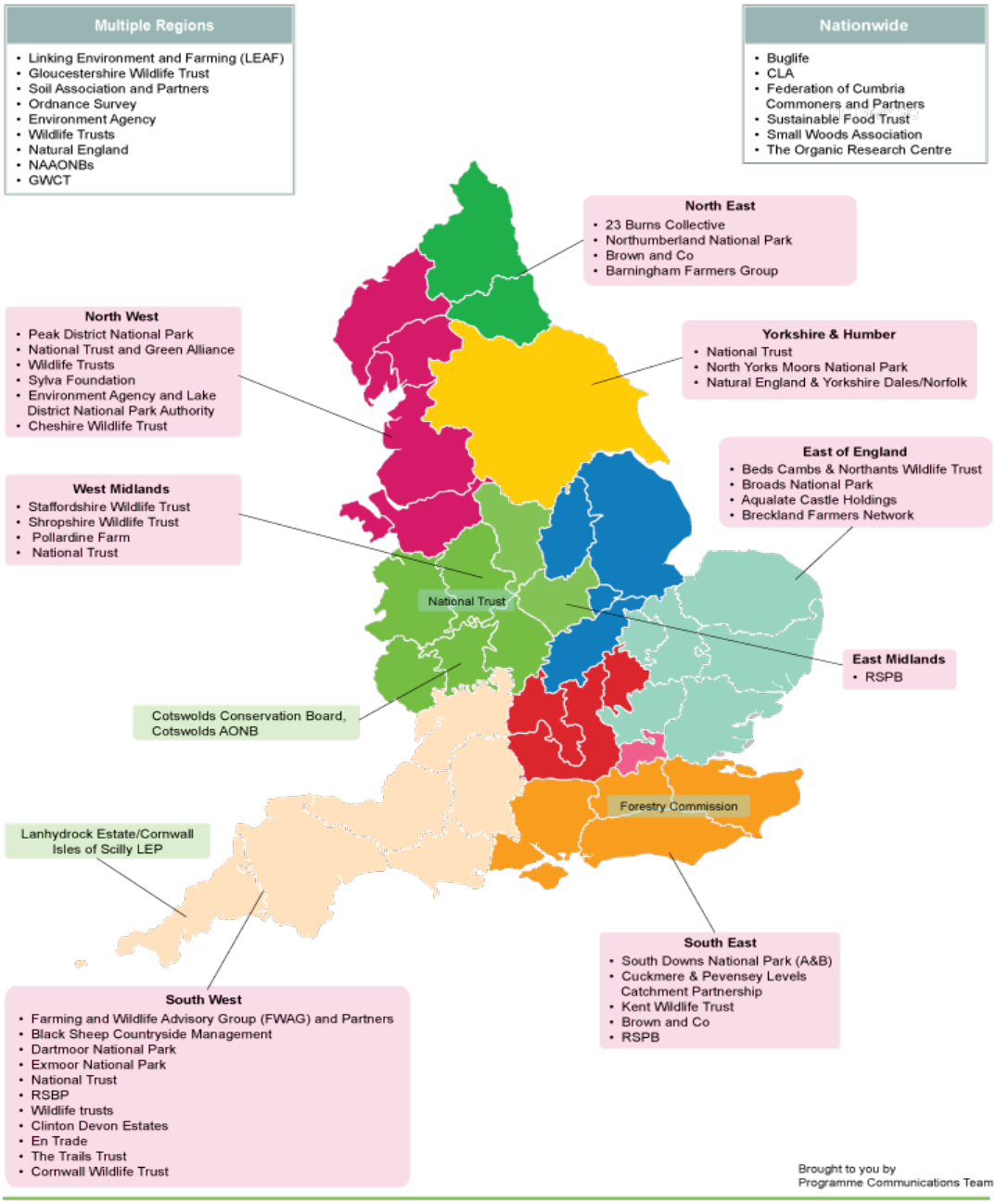


Fig.1 Map outlining coverage of tests and trials underway or in development

Each test and trial will produce interim reports, where longer in duration, and a final report to ensure that Defra is able to capture real-time learning as it arises. Learning is also collected through regular meetings with allocated test and trials officers. Between March and May 2020, we facilitated the first round of our quarterly Thematic Working Groups, which bring together relevant tests and trials to share and discuss findings.

The Tests and Trials team will continue to monitor delivery progress and gather evidence as the tests and trials progress. Covid 19 has impacted on delivery of a number of tests and trials, particularly where engagement was a critical element and we are currently working with stakeholders to determine alternative solutions or amend timeframes. We are also working with Defra policy colleagues to identify gaps that should be prioritised for future phases. In terms of the wider ELM programme, work is underway to design and

deliver the National Pilot from Autumn 2021. ELM Tests and Trials and the National Pilot are key elements of the ELM learning strategy as we prepare for roll-out of ELM from 2024.

Headline findings and learning points by priority theme

The following section outlines the headline points gathered to date by each priority theme and some case study highlights (See Annex B). As many tests and trials are still in early stages, in future reports we will be seeking to understand where there is consensus with or divergence from some of these points, as well as drawing out additional points. This quarterly report covers findings that have been shared **to the end of May 2020**. We have ordered the key findings under each priority theme, with some points about cross-cutting findings and potential gaps drawn together in the final section.

Land Management Plans – Headline findings

- There is a consensus that land management plans are an important building block for ELM in setting out what participants of the scheme will deliver, how and by when.
- Tests and trials are beginning to provide learning for land management plan design principles on content, format, scale, function and data requirements. Clarity on purpose of the plan will inform what it needs to contain and the best way of presenting that information.
- Land management plans will need to balance the complexity of natural capital mapping, land management activity and public good delivery with simplicity in terms of content and format. It needs to be useful for farmers and land managers in delivering their agreement.
- Land management plans should include an environmental baseline, a map and a potential public goods delivery assessment.
- A different approach will likely be needed for different spatial scales. At the farm or holding level, there is a preference for a plan that covers the whole farm or holding. However, concerns have been raised about the time and data required to complete a land management plan, particularly for larger holdings or estates.
- There is an emerging consensus that providing a land management plan template or guide would be welcome, but this shouldn't be too restrictive as one size will not fit all. Some tests and trials are exploring the applicability of existing templates and 13 will provide land management plan templates or content recommendations as a key output.
- Participant farmers and land managers have responded positively to using apps and digital tools to support their land management planning, but there needs to be a choice to ensure accessibility. Advice and facilitation will be important if relying on

digital tools, particularly for smaller farmers. There remains value in using paper documents and maps.

- Involving farmers and land managers in developing a land management plan can help ~~to~~ increase understanding of natural capital and public goods and how they can be delivered alongside commercial activity. However, the role of an advisor is key in accessing and interpreting data, applying this to planning tools, and supporting farmers and land managers to make decisions about their plans.
- There are challenges around data – in terms of accessibility, gaps, numerous sources, and costs. Affordable, publicly accessible data would be welcome. It would also be helpful if datasets are able to be integrated into a single system or platform to aid the comparison and transfer of data.
- There are differing views on whether plans should be made public. Making land management plans public will help farmers and land managers to communicate the environmental benefits and public goods they are delivering, increasing transparency. Some participant farmers would prefer that sensitive business data is not made public.

Advice and Guidance - Headline findings

- Expert advice has a **key role** to play within a new ELM scheme in terms of: land management planning, increasing take up of the new scheme, encouraging behaviour change, monitoring delivery of public goods and group facilitation.
- Advisors can also help 'level the playing field' in terms of supporting farmers and land managers to use **data and technology**.
- Advice is **needed throughout the scheme process** – from initial assessment to developing plans, to monitoring delivery and reviewing plans. In terms of monitoring delivery, some tests and trials are finding that participants are interested in self-assessment but would need support in developing indicators and how to measure these.
- Some tests and trials have found existing guidance can be focussed on adhering to rules. There is a preference emerging for **guidance** that focusses on **how to deliver** the best outcomes.
- There is **no clear consensus on who should pay** for advice. Some participants feel that as advice is an integral part of successfully delivering ELM and in achieving the environmental ambitions, it should be funded. However, where farmers and land managers see a clear financial benefit to paid advice, they may be more willing and able to pay for it.
- Farmers and land managers are likely to require access to a **range of specialist advice**. There may be value in having access to a 'general practitioner' with overarching knowledge, who can then signpost to specialists where required.
- There is an emerging consensus around what is important in an advisor including being personable and **honest**, consistent and having **good local knowledge**. Having strong environmental knowledge and being able to **communicate** that simply and effectively is also considered beneficial.

- There is emerging evidence of low levels of understanding around the new ELM scheme and key concepts such as public goods, natural capital and ecosystem services. Some basic guidance and 'how to' guides to help farmers to understand expectations and best practice would be welcome.

Spatial prioritisation - Headline findings

- Most of the tests and trials looking at spatial prioritisation are still in the data collation phase. Feedback indicates there are currently multiple data sources but **data availability, accessibility and consistency** vary dramatically. Feedback indicates that consistent, open-access data would be welcome.
- The availability and accessibility to data varies dramatically across the country, particularly in the case of **local data sets**, so the level of detail required for spatial prioritisation is not always readily available.
- Spatial prioritisation data needs to be **available to farmers and land managers**, but **support may be required** to interpret this and apply to their holdings through, for example, an advisor. Other tools such as a 'score card' outlining local priority outcomes could help to simplify the process for land managers, but this requires further testing.
- There are potential benefits to **incorporating local information and knowledge** in determining local priorities including: increasing 'buy-in' from both land managers and local communities; increasing a sense of ownership of delivery and encouraging collaboration.
- There is a value to incorporating **local knowledge** alongside 'hard' data. Some participants also felt that **'social data'**, such as collaboration and local stakeholder and community needs, should be included alongside ecological data in determining priorities, but there wasn't a clear consensus. There are tests and trials looking at how to incorporate priorities of local communities, but these are at an early stage of delivery.
- Participant farmers and land managers feel there is value in their **involvement in discussions and decisions on local priorities**. Farmers are best-placed to evaluate the appropriateness of delivering priorities on their land and have benefited from greater ownership and empowerment by being involved in the decision-making process.
- A number of tests and trials have highlighted that farmers are particularly **motivated by local rather than national priorities**. For example, in supporting efforts to restore local priority wildlife species or addressing context-specific issues such as flood mitigation and water management.
- Setting local priorities and increasing likelihood of effective delivery may require a **combination of 'top-down' and 'bottom-up' approaches**. A number of tests and trials are ~~also~~ looking at the role of local governance – including setting priorities, leveraging blended finance and, monitoring delivery but it is too early to share findings.

Collaboration - Headline findings

- There are emerging findings around common factors that enable effective collaboration including: the role of a **local trusted facilitator**, developing a **common goal** with clear benefits for those involved, and **financial incentives** (either immediate or future potential).
- There are numerous **models of collaboration** that could help to maximise delivery of environmental outcomes. These include, but are not limited to, land manager-to-land manager collaboration, facilitated cluster groups and formal partnerships, or engagement activity across a range of organisations and even the wider local community.
- Different collaboration models may be needed across different geographical locations ~~and~~ depending on the public goods being sought or delivered. The extent of existing collaboration between land managers **varies across geographies and sectors**.
- Many tests and trials looking at collaboration are in early stages but will provide a range of case studies to inform thinking on how to effectively encourage collaboration within ELM. This should add valuable insight on potential models to the wealth of research on the subject that already exists.
- There are emerging findings coming through our **innovative delivery mechanisms** tests and trials~~.~~ Payment by Results and Reverse Auctions could support collaboration between farmers and land managers if they are run in a particular way. Conversely, where they increase competition between farmers and land managers, they could support existing collaboration relationships.

Payments - Headline findings

- There is an emerging consensus that the income foregone plus costs incurred approach is not a **strong financial incentive**. Farmers are often not compensated sufficiently for activity undertaken, particularly where capital costs are incurred, and the maintenance of existing assets is not rewarded under existing agri-environment schemes.
- Many farmers and land managers participating in tests and trials view a **tiered payments system** favourably and consider it an effective approach to incentivising different activities. For example, when delivering multiple benefits there could be stacked payments, such as with woodland creation and management, which is poorly supported under current schemes. Another example was a basic payment for asset maintenance, and additional payments for asset extension or condition improvement.
- A tiered payment approach could support **targeting priority habitats or species**. It could also include a financial uplift for **collaborating at landscape scale**, for example to connect habitats for nature recovery networks or catchment water management.

- Participants are positive about moving towards a more outcome-focussed payment approach. However, for **payment by results (PbR) approaches** more work is needed to determine the optimum basis for payments. There are also concerns around the impact of external risks to delivery and ensuring financial sustainability in a purely outcome-focussed approach.
- Ideas for balancing an outcomes-based approach with **financial sustainability** include: reducing cashflow concerns through an annual basic payment for participating, alongside payments for capital works, ongoing payments for maintenance and 'bonus' payment for delivery of outcomes. Longer agreements for creation and maintenance of natural capital assets such as woodland would be welcomed to provide financial stability ahead of delivery of outcomes.
- If moving towards a fully outcomes-based approach, farmers will need clarity on the potential **return on their investment**. Some tests and trials have found that private finance opportunities, such as carbon and biodiversity off-setting, could help to encourage take-up if ELM payments are not deemed a sufficient financial incentive.
- Some tests and trials have noted that participants would welcome a points-based approach to payments, but there are conflicting views on this. Concerns were raised around the options available and **regional variations**.
- There are currently conflicting views on the use of **reverse auctions**. Countryside Facilitation Fund (CSFF) participants felt this could drive a 'race-to-the-bottom' rather than encouraging the most effective outcomes.
- The CSFF groups also felt that there was **potential to encourage collaboration** through reverse auctions at a landscape scale, but if individual land managers were bidding this would increase competition and risk undermining collaboration. Emerging evidence supports the view that these are better placed for **landscape scale outcomes**, but our tests and trials on these are still in early stages.
- Feedback on collaboration has indicated that there needs to be a clear financial incentive to participants, for example through **managing efficiencies** in delivering public goods or having a **clear financial return** through ELM or blended finance options. There may also need to be funding made available for facilitators to initiate collaborative working.
- Many tests and trials are in early stages of applying **natural capital approaches**. Early feedback indicates that this is a complicated process, which requires capacity-building and/or **advisor support**. We do not yet have any substantial findings on the applicability of natural capital valuation to determining payment rates.
- In an outcomes-based approach, we need to establish effective **mechanisms for monitoring and evaluating outcomes** to inform both payment triggers and allow demonstration of value for money.
- Across our tests and trials, participants have indicated that **clarity on what the system will pay for and the payment rates** are critical to encouraging scheme take up and incentivising the desired activity.

Innovative Delivery Mechanisms - Headline findings

- Most tests and trials contributing to this theme are longer-term trials of over 12 months in duration. We therefore only have initial findings at this point.
- Participants of the **Payment by Results** (PbR) trials have indicated that they welcome the more flexible approach but do have financial concerns about a solely outcome-based scheme.
- The **benefits of a PbR approach** identified include an increased awareness of the value of the public goods that participants can provide on their land holdings and an increased buy-in to delivering local priorities. Participants have indicated that on-farm **advice and guidance** has played a key role in developing land manager awareness and capability.
- There are also emerging findings from the PbR Natural England trial in the Yorkshire Dales that the outcomes achieved are greater than under activity-based agri-environment schemes.
- There is emerging evidence from PbR trials around the benefits of **farmer self-assessment** alongside defined validation assessments including: capability building, commitment to improve and, good levels of accuracy.
- However, more work is needed on developing and testing **best practice guidance and outcome indicators** across the range of public goods. The monitoring of environmental outcomes is currently out of scope for the Tests and Trials programme. However, a number of tests and trials are developing or applying outcome measures and indicators or considering how aspects of assurance scheme standards could support this, which could provide important case studies.
- There are some positive findings emerging on the use of **Reverse Auctions**, particularly where there is a clear outcome being sought that also encourages collaboration between land managers. For example, water quality through a catchment-scale approach. We are testing other outcomes, but findings are limited as yet.
- In addition, the role of **well-established and connected delivery partners** and allowing enough lead-in time to ‘warm up’ potential participants have been highlighted as success factors.
- Participant feedback from completed auctions indicated a positive experience. The **reduced bureaucracy** for farmers was highlighted and there are some early indications that reverse auctions could help to **engage farmers and land managers** that have not previously participated in agri-environment schemes.
- Innovative delivery mechanisms may **not be mutually exclusive approaches**. For example, reverse auctions can apply aspects of PbR by releasing payment once delivery is achieved. Reverse auctions could also provide **a mechanism for leveraging blended finance**, where local public and private organisations can see a benefit to investment. For example, water companies in improving water quality.

Cross-cutting issues and gaps

Some **cross-cutting findings** include the following:

- The tests and trials underway reported **significant engagement** from farmers and land managers, indicating a clear interest and commitment to be involved in the co-design of ELM. However, test and trials project leads have emphasised the time investment needed to explain ELM and promote the opportunity to engage in tests and trials.
- There is an emerging consensus that, whilst some of the core concepts are applicable across different scales, geographies, sectors and land-types, there **needs to be flexibility** in application.
- A number of tests and trials are reporting current **low levels of understanding** around key ELM concepts such as public goods and natural capital, so some simple guidance and awareness-raising activity may be beneficial. Conversely, feedback indicates an increased level of understanding after engagement with a test and trial.
- The importance of **facilitation, advice and guidance** is coming through strongly across all the themes, as is **capacity building**. Some of these may require greater support at early stages of ELM, or when new participants join, but could potentially be reduced as knowledge increases.
- Whilst facilitation is considered a key driver in establishing collaboration, there is a potential gap in understanding whether collaborative models can be sustained without continued facilitation.
- There is an interest in moving away from the restrictive, punitive approach to monitoring and enforcement and towards encouraging **self-assessment and continual improvement.** Questions are being raised around the intersection between innovation and regulations.
- Getting the **financial incentives** right will be a critical success factor in ensuring take-up of the scheme and commitment to continual improvement.

In terms of potential **gaps**, participants at the thematic working groups were keen to ensure that ELM design adequately considers the **needs of specific participants or groups** including tenant farmers and those managing common land. We would also like to continue to increase the number of farmer-led tests and trials.

Our learning to date has also highlighted some policy themes that we may wish to explore further through our tests and trials, including: **monitoring and compliance** approaches; outcome indicators for **self-assessment**, and; interaction with **industry approaches** such as assurance schemes, standards and sustainable farming score-cards.

Conclusion

Although most tests and trials are in early stages, they are beginning to provide important learning points to inform design principles for key ELM delivery concepts and how these could work in different settings. As outlined, these findings are shared regularly with ELM policy colleagues to inform policy development as a key part of the ELM learning strategy.

We recognise that the findings included will only reflect the learning we have received to date, so we welcome stakeholder feedback, particularly where conflicting findings to what we have outlined may have arisen from your test and trial.

Future quarterly reports will seek to build on these initial findings and highlight where they align, and where there may be conflicting findings and why. We will also outline how the findings have been incorporated within ELM policy development as part of the ELM Learning Strategy.

Annex A – Summary of current Tests and Trials (as at the end of May)

Early Tests and Trials

Organisation	Title	Themes
Environment Agency and Lake District National Park Authority	Cumbria Pioneer	LMPs, SP, Collab.
Natural England, with UNESCO Biosphere, Forestry Commission and Environment Agency	North Devon Pioneer	LMPs, A&G, SP, Payments IDMs
Natural England and the Yorkshire Dales National Park Authority	Payment by Results (PbR)	A&G, Payments, IDMs

Phase 1 and 2 Tests and Trials Underway (as at the end of May 2020)

Organisation	Title	Themes
23 Burns Collective	23 Burns Collective	LMPs, A&G, SP, Payments, Collab.
The Broads Authority and Partners	Maximising public goods delivery within the Broads	LMPs, A&G, SP, Collab., Payments
Buglife	Testing Monetary Incentives for delivering Landscapes for Pollinators	LMPs, A&G, Collab.,

Organisation	Title	Themes
		Payments
CLA	Wildlife Estates	Collab., A&G, LMPs
CLA	Incentivising sustainable farming and forestry practices that deliver public benefits	Payments, LMPs
Lanhydrock Estate and Cornwall and Isles of Scilly LEP	Respryn Natural Capital Project "A bridge between Economic and Environmental Delivery"	LMPs, SP, Collab. Payments
Cotswolds Conservation Boarch and Cotswolds AONB COMPLETED	Researching and piloting the need for local payment rates and options to achieve outcomes in the Cotswolds	LMPs. A&G, Payments, SP, Collab
Dartmoor National Park Authority	Dartmoor National Park Trial	LMPs, A&G, SP, Collab., Payments, IDMs
Exmoor National Park Authority	Using natural capital to deliver the 'broadly accessible scheme' in upland and pastoral landscapes	LMPs, SP, Payments
Farming and Wildlife Advisory Group (FWAG)	Multi-functional land and water management on the Somerset Levels	A&G, SP, Collab.

Organisation	Title	Themes
		Payments IDMs
Farming and Wildlife Advisory Group (FWAG) and Partners	Developing a natural capital recording tool	LMPs, A&G, SP, Collab.
Foundation for Common Land	Development of a Commons Proofing Tool	LMPs, A&G, SP, Collab.
Forestry Commission	Urban woodland creation	LMPs, A&G, SP
Forestry Commission	Agent Land Management Plans	LMPs, A&G,
Linking Environment and Farming (LEAF)	LEAF Demo Farms and LEAF Marque as an ELM platform	LMPs, A&G
NAAONBs (National Association for Areas of Outstanding Natural Beauty)	Farming for the Nation: AONBs as test beds for a new Environmental Land Management System	LMPs, A&G, SP, Collab., Payments
National Trust (Cornwall)	Developing a farmer-led Nature Recovery Network.	A&G, SP, Collab.
National Trust (Yorkshire Dales)	Payments for Outcomes for a whole-farm approach	LMPs, A&G Payments, IDMs
National Trust (Shropshire)	Stepping Stones Whole Farm Plans	LMPs, A&G Collab.

Organisation	Title	Themes
National Trust and Green Alliance (Cumbria)	Test the Natural Infrastructure Scheme concept through integration with LENS and EnTrade (the 'Eden Model')	SP, IDMs
Northumberland National Park Authority	Curlew Contracts	LMPs, SP, Collab., Payments, IDMs
Ordnance Survey	Evaluate Data Requirements	LMPs, SP
Peak District National Park Authority	Using the White Peak National Character Area (NCA) for testing and trialling ELM approaches	LMPs, A&G, SP
RSPB	Developing and testing a local collaborative ELM offer to support and maintain species recovery in South Devon	SP, Collab.
RSPB	Investigating the potential for reverse auctions to deliver the recovery of priority species	A&G, Payments IDMs
RSPB	Developing and testing self-assessment of environmental land management options	LMPs, A&G
Small Woods Association	Addressing under-management of small woodlands in England.	LMPs, A&G Collab.
Soil Association and Partners	Testing the Public Goods Tool for ELM	LMPs, A&G Collab., IDMs
South Downs National Park Authority (A)	South Downs Farm Clusters COMPLETED	LMPs, A&G, SP

Organisation	Title	Themes
South Downs National Park Authority (B)	South Downs Land App Trial	LMPs, SP, Collab.
Sustainable Food Trust	Harmonisation of standards	LMPs, A&G, Collab.
Gloucestershire Wildlife Trust and Partners	A facilitated, farmer-led approach to the delivery of environmental public goods on a landscape scale	LMPs, A&G
Cheshire Wildlife Trust and Liverpool John Moores University	A natural capital base, farmer-led model of the delivery of environmental public benefit on a landscape scale in the uplands - Cheshire Wildlife Trust	LMPs, A&G SP
Beds, Cambs and Northants (BCN) Wildlife Trust	Delivering a catchment-based nature recovery network - The Wildlife Trust for Bedfordshire, Cambridgeshire and Northamptonshire	LMPs, A&G SP
Staffordshire Wildlife Trust	Farmer-led collaboration to deliver a landscape plan - Staffordshire Wildlife Trust	LMPs, SP, A&G
Kent and Sussex Wildlife Trusts	Delivering ELMS at a landscape scale through Farmer Clusters - Kent and Sussex Wildlife Trusts	LMPs, A&G, SP, Collab.
Cornwall Wildlife Trust	Development of a Natural Capital assessment tool and App	LMPs, SP, A&G
North Yorks Moors National Park Authority	Building on the success of previous schemes to achieve better collective outcomes	SP, Collab., Payments IDMs
Game and Wildlife Conservation Trust (GWCT)	Practitioner-led farm monitoring	LMPs, A&G

Organisation	Title	Themes
Clinton Devon Estates	Catchment Co-design in East Devon: testing collaborative approaches to landscape planning and ecosystem service delivery	LMPs, A&G, SP, Collab. Payments
En Trade/ Wessex Water	Natural Capital Reverse Auctions	Collab., Payments, IDMs
Cuckmere & Pevensey Levels Catchment Partnership	Cuckmere & Pevensey levels Land Management Pilot	LMPs, A&G, SP, Collab., IDMs
Natural England	Catchment Sensitive Farming	LMPs, A&G
Environment Agency (EA)	Developing markets in environmental Outcomes	Payments, IDMs
The Trails Trust	How to incentivise green infrastructure access and biodiversity creation	LMPs, A&G, Collab. Payments
NFU West Midlands	Test approaches to natural capital delivery in a network of mixed farming businesses	LMPs
Sylva Foundation	Woodland Creation Software	LMPs, A&G, SP, Payments
Barningham Farmers Group	Innovative cross-holding, collaborative system for planning and delivering environmental management	LMPs, SP, Collab.

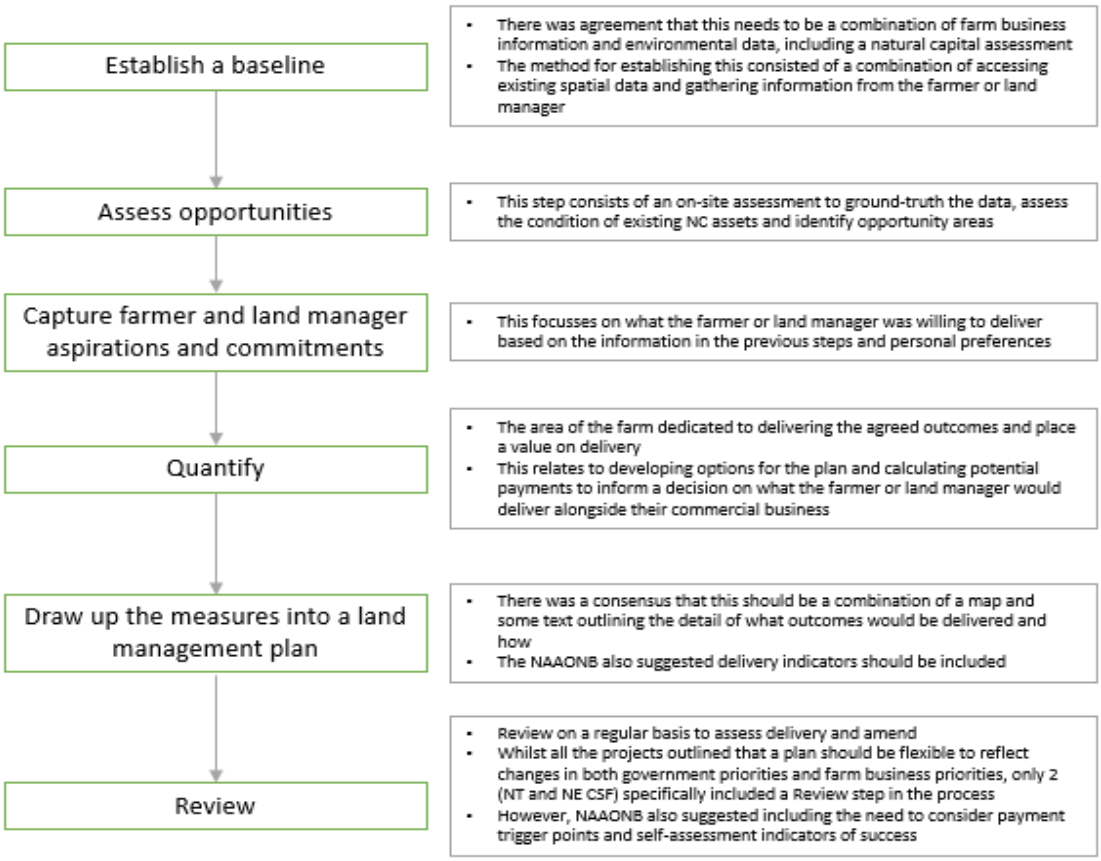
Organisation	Title	Themes
The Organic Research Centre and Agricology Network	A knowledge exchange partnership to communicate farming best practice and facilitate change	A&G
Shropshire Wildlife Trust	Connecting the Clees	LMPs, A&G, SP
Aqualate Castle Holdings	Farmer-led Catchment Land Management Plan	LMPs, A&G, SP Collab.
Brown and Co	Develop partnerships between agriculture and polluter industries to realise, promote and attribute a monetary value to land management practices promoting carbon capture and storage through a polluter pays principal	A&G, Payments
NFU South East	Farmer Group Plans - How to achieve more, bigger, better, more joined up	LMPs, SP Collab.
Black Sheep Countryside Management	To develop the next generation of collaborative initiatives	A&G, SP, Collab.

Annex B – Illustration of findings

Land management plans

We have five test and trials working on LMPS. They have provided a summary of findings which we have collated. These cover recommendations on completing a plan, what information should be included and the format.

Creating a land management plan:



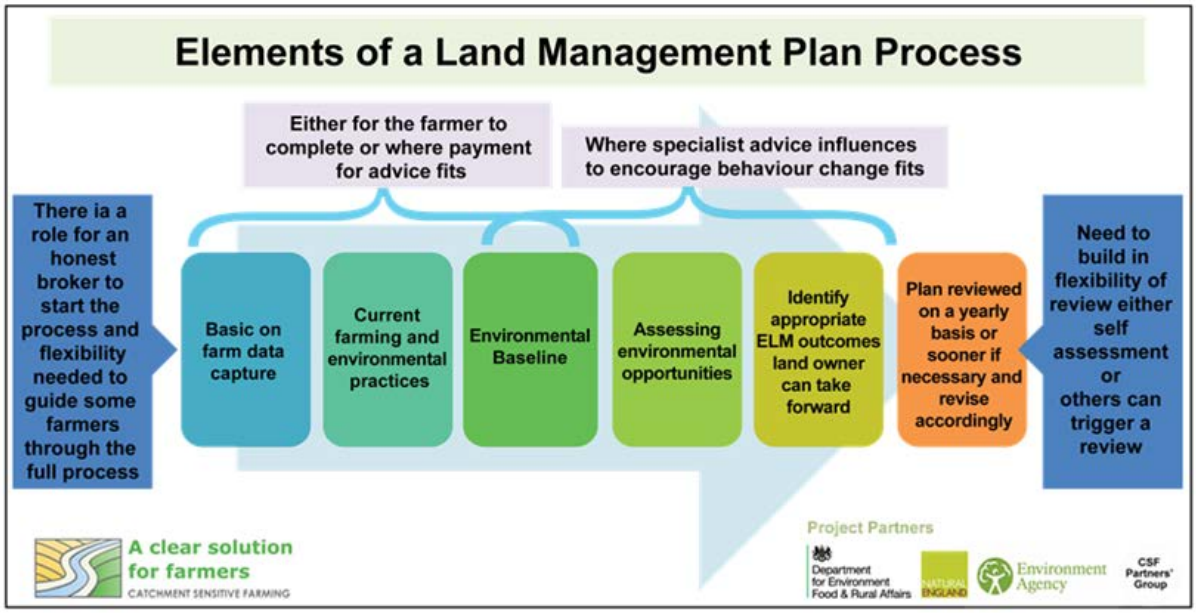
Land management plan content

Element	What it contains	Map	Text	Graph/ Table
Farm Background, Business and Data Summary	Including name, main business enterprises and future priorities, holding size, previous agri-environment scheme delivery or assurance scheme membership		x	

Element	What it contains	Map	Text	Graph/ Table
Public goods objectives	Which public goods will be delivered and how, what area of land or percentage of holding included in delivering public goods		x	
Baseline	The farm's present situation. Could include current farming and environmental practices, environmental baseline assessment e.g. existing natural capital audit		x	x
Opportunities Assessment	What environmental and public good opportunities have been identified, and how these will be achieved, including creation, maintenance or enhancement	x	x	
Farm Action Plan	The aspirations for what public goods will be delivered and how across the holding. Some suggested this could be done by land parcel and public good. It could also include additional information such as whether the agreement holder proposes to collaborate with neighbours to deliver landscape scale outcomes such as water quality, flood mitigation or nature recovery networks	x	x	
Assessment	Outline of how delivery will be monitored, including success indicators	x	x	
Cost	[This section was not included in all the templates proposed, but all the projects included a consideration of delivery costs as a key factor in decisions on the plan. In the absence of defined payment rates, this could set out a valuation of the work to be undertaken, or the payment point that the land manager would be willing to undertake the work]			

Advice and guidance

Results from tests and trials considering advice and guidance, have highlighted the need for expert advice to support land managers. Advice is needed to help identify potential public good delivery with which to inform their plans. Some are considering at what point in the process that expert advice might be needed. For example, the process below from the Natural England Catchment Sensitive Farming test and trial sets out a potential **model for advisor support** in preparing and delivering against a land management plan.



Some tests and trials have found that there are currently low levels of understanding around what we mean by 'public goods'. To support participant farmers in their tests and trials, some have produced a **simple guidance tool to** increase understanding. Produced by the Peak District this tool translates key aspects of the National Character Area profile into public goods.

Clean water

The rivers, streams, springs and groundwater provide water for use in agriculture, industry and for drinking water. The waters are vulnerable to pollution from fertilisers and sedimentation from soil erosion. Efficient use of fertilisers and chemicals by nutrient planning and applying in suitable amounts, locations and at appropriate times can help limit run-off or leaching. Restricting stock access to rivers, streams and springs will prevent poaching and soil run-off. Avoiding soil compaction and building organic matter can help limit both fertiliser and soil run-off. Making use of grey water and rainwater will lessen the need for abstraction.

Carbon and climate change

Unusually, the area has rich loam soils even at heights above 350 metres (1,150 feet). White Peak soils can be vulnerable to compaction and erosion when soils are in poor health, e.g. low organic matter, which leads to release of carbon. The soils in unploughed permanent grassland and woodland are an important form of long-term carbon storage. Some species-rich grasslands can even store more carbon than woodlands. Organic

matter in the soil can also help improve drought tolerance for the future, as can tree planting to provide shade.

Clean air

The agriculture sector is the main source of ammonia air pollution, accounting for 88% of UK emissions. It is released when storing and spreading manure, slurry and fertilisers. Ammonia reacts with other pollutants in the air to produce particles that can travel large distances and significantly impact human health. Ammonia is deposited in soils as excess nitrogen, which wild plants can't cope with. Agriculture also accounts for around 51% of methane emissions and other harmful emissions that cause ozone to form. Ozone damage typically reduces yields of key crops by 5%. Covering slurry and manure stores and using low emission spreading equipment can help reduce ammonia emissions.

Cultural heritage

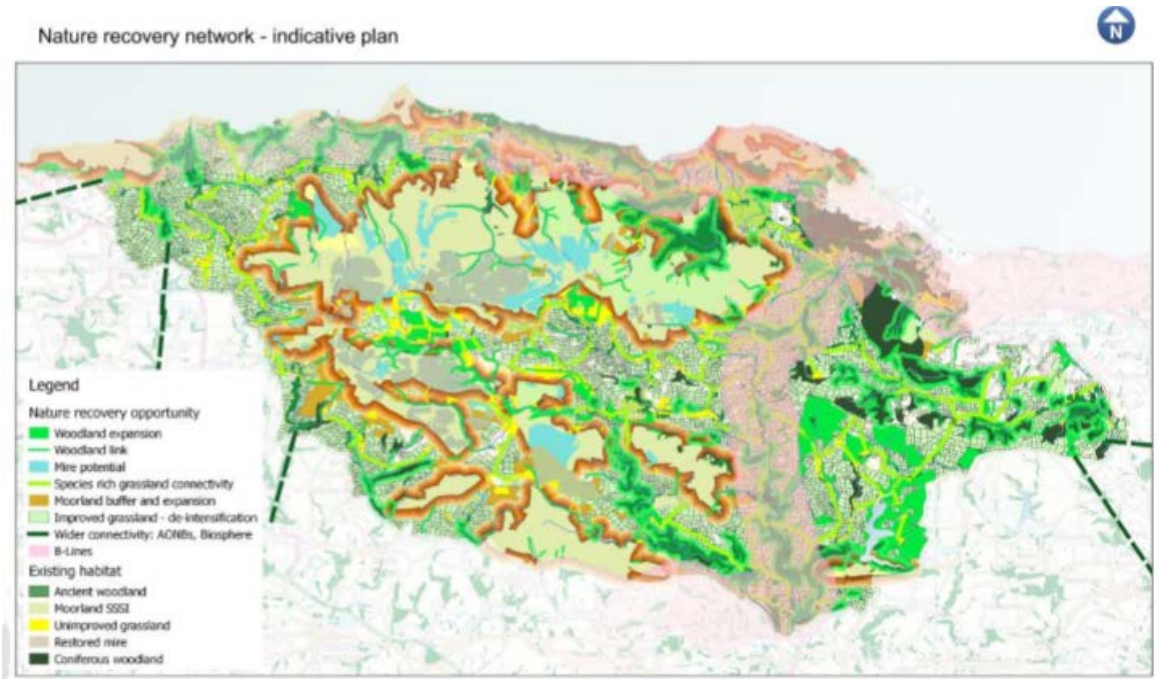
Features and landscapes that make up the rich sense of history found in the White Peak should be preserved. Evidence of various field enclosure periods; narrow strip fields of medieval origin can be found around villages, with larger rectangular fields further onto the plateau, both usually made up by drystone walls. There are widespread features of archaeological and historical interest, from Neolithic and Bronze Age ritual monuments, through limestone extraction, limekilns and lead workings to old railways and mills from the 18th century textile industry. Field barns, dewponds and shelter belts reflect the various types of farming on the plateau. On the fringes, hedgerows often replace the typical limestone walls, and extensive well-preserved ridge and furrow can be seen.

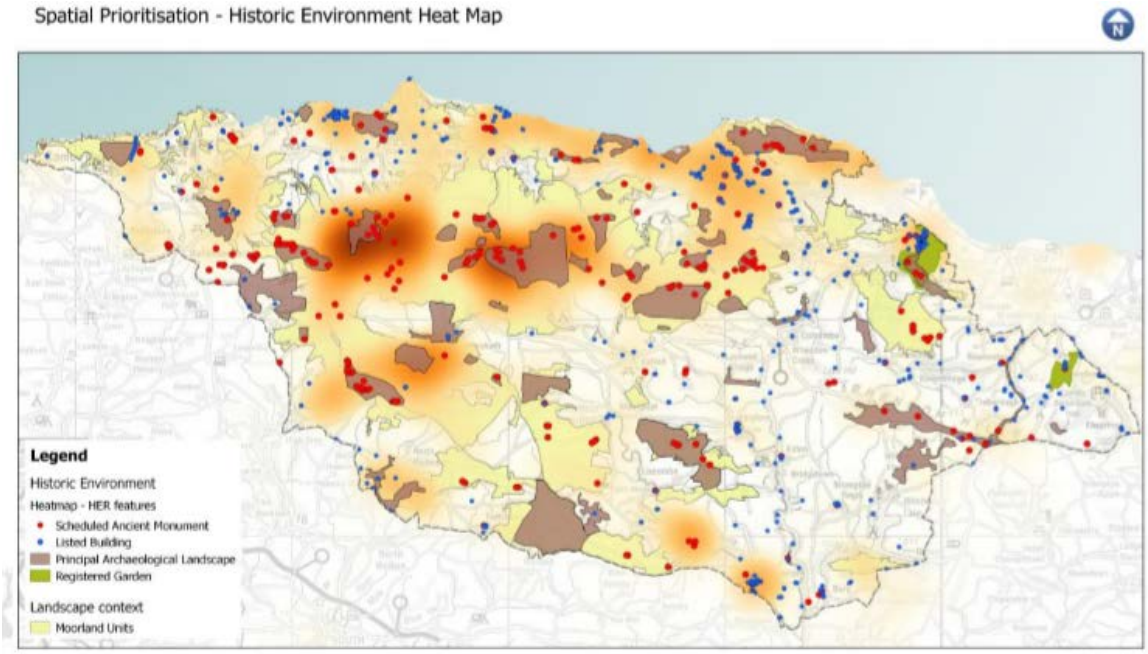
Recreation

People from surrounding cities use the open access areas of the dales, comprehensive public rights of way network and trails to experience tranquillity. The caves, crags and gorges of the dales are signs of the underlying limestone geology. These contribute to the inspirational value of the White Peak, as well as being valuable for education, recreation and scientific study. The strong sense of place provides a tourist market which provides essential income for some farms.

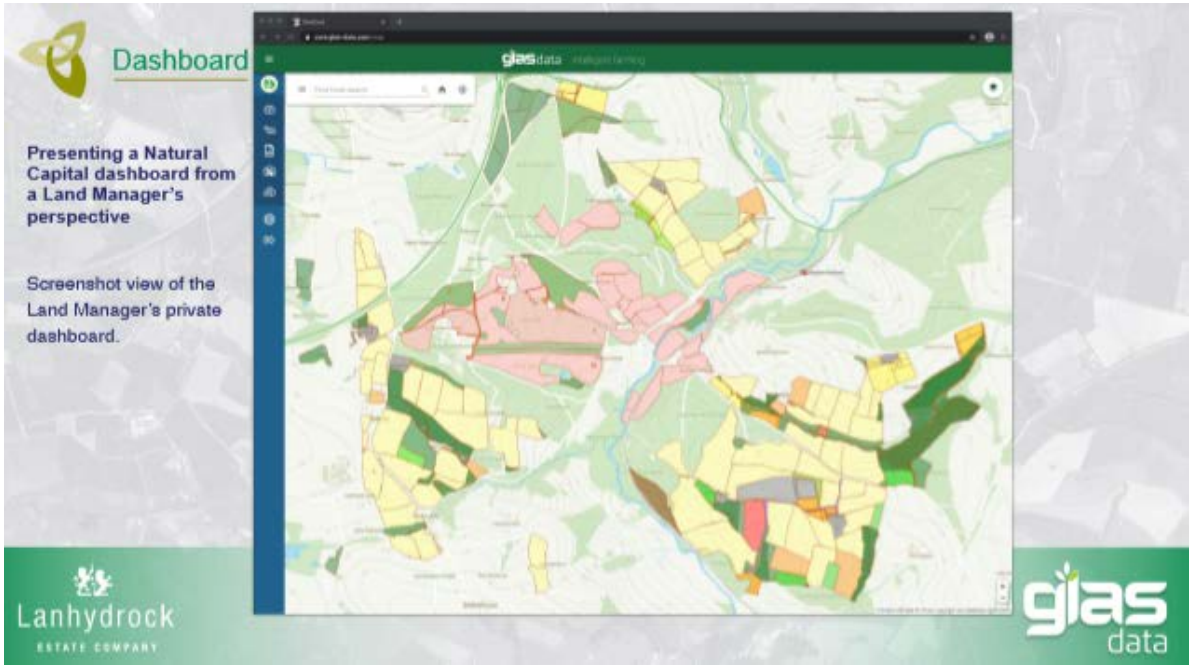
Spatial prioritisation

A number of tests and trials focussed on spatial prioritisation have collated existing datasets to produce **natural capital maps**, which they will use to inform decisions on local priorities. Exmoor National Park have produced maps outlining existing ecological networks to inform a nature recovery network, which they can overlay with heat maps looking at other public goods such as historical assets.





Some trials explore how to apply these at a farm or land holding level. For example, Landhydrock Estate has worked with GlasData to a produce Natural Capital Asset Registers. This was built up using around 35 different data layers ~~i~~ information from 11 farm holdings' land management plans, incorporating bottom-up as well as top-down processes. They used this to create a Natural Capital Dashboard for land managers inform their planning.



Collaboration

Identifying local priorities with farmers can also support collaboration, Trials by Cuckmere and Pevensey and FWAG South West have found that dedicated facilitators can bring farmers and land managers together and convey the benefits of collaborating. Financial reward is a strong incentive to collaborate, but this doesn't necessarily have to be a direct payment but a clear return on investment – either through future payment or returns, or an avoided cost.

In the case of Somerset Levels, land managers face a shared risk from flooding, which can only be addressed effectively through a collaborative approach. However, FWAG have found that even with a shared risk, or opportunity, farmers and land managers would not necessarily collaborate without the efforts of a facilitator in bringing them together and helping to establish a cluster or partnership and conveying the benefits. A key challenge facing areas of the Somerset Levels is broken land ownership patterns, making collaboration to deliver with neighbouring land parcels difficult.

FWAG are working with three collaboration case studies of 'Moors Associations' in the area – from a more established partnership to a very new initiative. Three key aspects highlighted were:

- Whilst Moor Associations can develop from the bottom-up, a facilitator is needed to bring people together and convey the benefits of collaborating.
- Establishing collaboration therefore requires investment, at least initially as seed funding.
- There needs to be a direct need or benefit to collaboration – such as risk mitigation, pooling resources to improve resilience, or receiving financial reward through collaboration.

Developing a group identity and purpose can help sustain collaboration.

Payment rates

Two tests and trials asked participant farmers to try and place a monetary value on undertaking activities to deliver identified public goods. Although a detailed exploration of payment rates was out of scope of their test and trial, Cotswalds AONB carried out a survey on indicative payment rates for six sample interventions, as outlined below. Participants fed back the need for a tiered payment approach (upfront costs for required investments, regular maintenance payments, and payments on delivery of outcomes). For simplicity, it was suggested a payment of 115% of actual costs incurred could include an incentive for ongoing maintenance.

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%

23 Burns Collective asked participant farmers to assign a monetary value for delivering against the public goods aspirations that they had identified. This provided a helpful indication of what farmers felt was a fair payment for the identified activities, but there was a significant variation in the costs provided. The test and trial did help to identify an indicative payment rate for each intervention which could achieve a 90% take-up. Both the Cotswolds and 23 Burns identified upfront payments for capital investment as key in creating assets, alongside an annual maintenance payment.

Payment methodology

Findings to date indicate that participants do not consider income foregone plus costs an attractive incentive. However, in determining payment rates, this seems to be a popular approach. It is unclear yet why this might be but could be due to simplicity and familiarity through involvement in previous schemes. Interestingly, some of the Environment Agency reverse auctions have found that the costs come in at around the income foregone plus

costs mark, or even below this, but further work is needed to understand the reasons behind this. There was some support from Cotswolds AONB participants for a payment for outcomes approach, but this mainly related to a public good delivery 'bonus'. The Natural England Payment by Results (PbR) trial has shown some positive results to date including greater delivery impact compared to other schemes; continual improvement in ambition, and potential

cost efficiencies. The tiered approach, whereby the maximum payment rate is based on income foregone plus additional costs incurred to manage land in a way that should produce a top-tier result does include some capital costs.

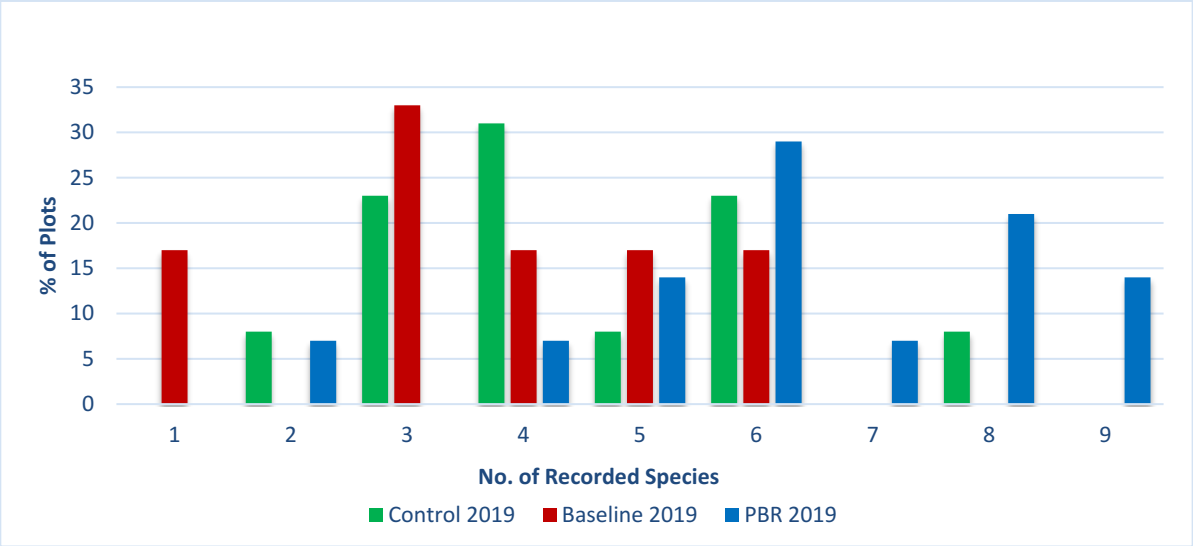


Fig.a. Number of sown species present in 2019 for PN control, baseline and PBR plots

Innovative delivery solutions

Both the reverse auctions and payment by results approaches contribute learning to our innovative delivery mechanisms theme, as well as the potential for blended finance i.e. leveraging private investment alongside public money in encouraging delivery of public goods and ensuring value for money for government. Due to the impacts of Covid 19, only the Environment Agency trial has been able to run some reverse auctions to date. There are some positive emerging findings in the ability of reverse auctions in: encouraging location-specific interventions; leveraging blended finance and attracting participants that may not have previously been involved in agri-environment schemes.

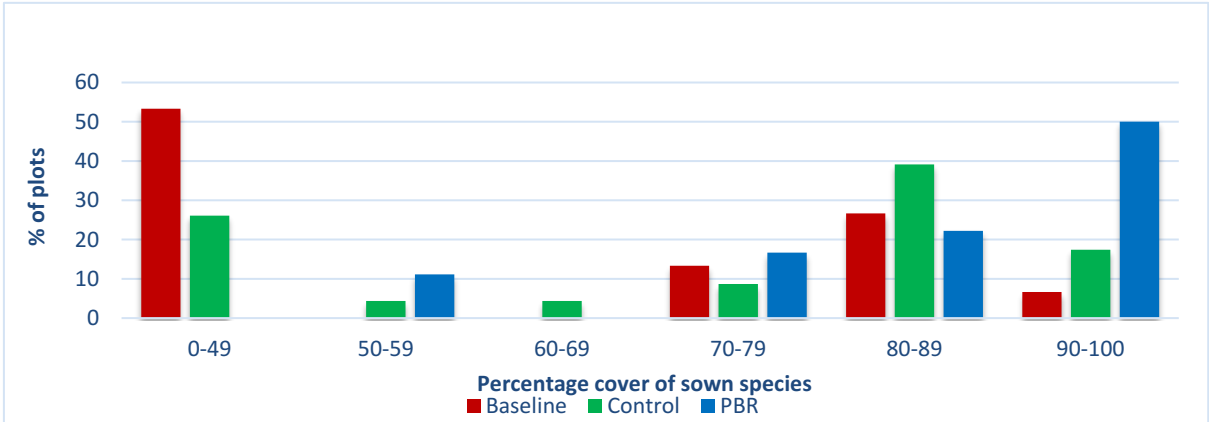


Fig.b. Percentage cover of sown species in Pollen and Nectar baseline, control and PBR plots in 2018 and 2019.

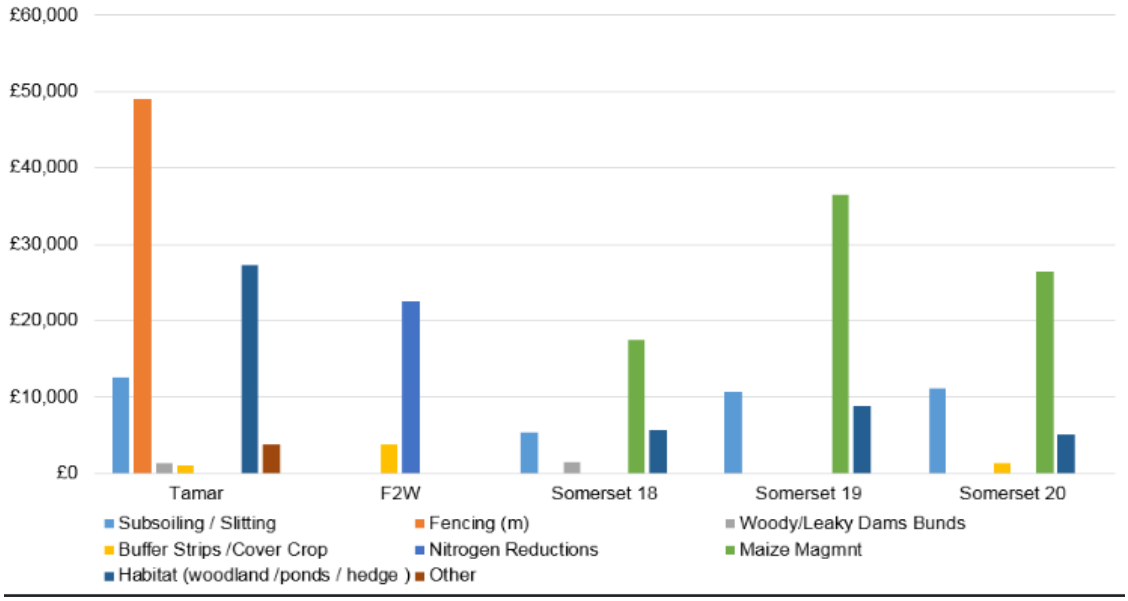


Fig.a **Type** of interventions and cost at different auction sites

Measure / Location	Subsoiling / Slitting	Fencing (m)	Woody / Leaky Dams Bunds	Buffer Strips & Cover Crop	Nitrogen Reduction	Maize Mgmt (cover crops)	Habitat (woodland / ponds / hedge)
Tamar	274 ha	8491 m	2 units	4 ha	-	-	9.92 ha + 2 ponds
Fell to Well	-	-	-	31 ha	197 ha	-	-
Somerset 18	103 ha	-	2 units + 24 m bunds	-	-	234	306 m
Somerset 19	198 ha	-	-	-	-	1077	1343 m
Somerset 20	232 ha	-	-	2 ha	-	585 ha	530 m

Fig.b **Quantity** of interventions on different auction sites