

Key Principles for Environmental Land Management, the Future Farming and Countryside Programme and the agricultural transition period

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EXECUTIVE SUMMARY

This paper outlines a set of key principles recommended by Wildlife and Countryside Link (Link) for the agricultural transition period, and the Environmental Land Management scheme thereafter.¹ The key principles are as follows:

- **Key principle 1- A fair transition:** A robust and coherent package of support is required to facilitate a safe and fair transition to a new agricultural and land management policy, which is based on the principle of public money for public goods. It should represent a decisive change in the purpose of payments, but make use of effective components of existing schemes which are proven to deliver public goods.
- **Key principle 2- A transformational transition:** The Sustainable Farming Incentive Component must not reinvent the status quo; it needs to be able to support farmers and land managers to transform their farm and rural businesses, while recognising that a healthy environment underpins a resilient farm and rural business. Rewards should be directed towards practices that rebuild vital natural assets such as pollinators, heritage assets, soil health, key habitats, and farmland plants and wildlife, for example.
- **Key principle 3- Environmental objective-led resource allocation:** All Components of the scheme will play a vital part in delivering key government commitments and should be afforded equal priority in scheme design, piloting and delivery. Defra should ensure the budget for each component reflects environmental need to ensure ELM can make a significant contribution to the delivery of environmental commitments.
- **Key principle 4- Vertically integrated:** The Local Nature Recovery Component should be able to support the delivery of national environmental and access objectives in a locally responsive way, supporting existing and expanding high nature value farming systems and wildlife species and habitats.
- **Key principle 5- Early action at landscape scale:** The Landscape Recovery Component should be attractive to land managers and be fit-for-purpose to deliver at pace.
- **Key principle 6- SMART objectives:** Defra should develop a series of SMART objectives for ELM to guide scheme design and help identify priorities for funding.
- **Key principle 7- Firmly and fairly enforced:** A robust regulatory system based on the polluter pays principle is essential to tackle negative externalities from farming and forestry and to underpin a new policy based on public money for public goods. Defra should be developing the financial assistance scheme (e.g. ELM) and the new regulatory system in tandem to ensure a cohesive and effective package.
- **Key principle 8- The polluter pays:** ELM should not pay to meet regulatory standards, existing elements of cross-compliance or basic good practice. Instead, these should be pro-actively enforced, for example through payment eligibility and penalties.

¹ *Wildlife and Countryside Link is the largest environment and wildlife coalition in England, bringing together 57 organisations to use their strong joint voice for the protection of nature. Our members campaign to conserve, enhance and access our landscapes, animals, plants, habitats, rivers and seas. Together we have the support of over eight million people in the UK and directly protect over 750,000 hectares of land and 800 miles of coastline.*

- **Key principle 9- A whole holding approach:** all components of ELM need to help transform farming and forestry, helping to reframe a healthy environment as central to a resilient business as opposed to a bolt-on or luxury. As a minimum, the government should be supporting the adoption of whole system approaches (such as organic) as they reduce negative externalities and deliver public goods.
- **Key principle 10- Open to all land managers meeting basic green standards:** Entry requirements and conditions are vital to create a baseline standard for farmers and other land managers receiving public money. It must ensure that at the very least, land managers are meeting a minimum set of requirements that can be demonstrated to deliver public goods. On eligibility there should be no 'active farmer test' and the de minimis level should be kept as low as possible proportionate to administration costs.
- **Key Principle 11- Integration with other policies:** Synergies should be maximised and objectives aligned between ELM and other policy drivers and funding mechanisms to ensure cohesiveness and complementarity. At the same time, care should be taken to avoid the dismantling of ELM as a holistic approach to environmentally sustainable farming and land management and ambitious environmental delivery.

These principles build upon Link analysis from 2017, which provides a (non-exhaustive) categorisation of activities under each outcome that should be regulated, or funded under ELM the Sustainable Farming Incentive Component, Local Nature Recovery Component or the Landscape Recovery Component, or delivered by other policy mechanisms²³.

INTRODUCTION

One of the primary purposes of future farming and land management policy, as set in law under the Agriculture Act, is to deliver public goods alongside the production and promotion of sustainable food and other produce. We strongly support this approach.

Environmental Land Management (ELM) and the wider Future Farming and Countryside Programme (FFCP) should be the cornerstones of this new way of managing land. These new policies should be a clean break from the inefficient and inequitable Common Agricultural Policy, while retaining the positive land management initiatives that are proven to deliver public goods. ELM and the wider FFCP must be ambitious and truly world-leading in order to meet the nature and climate challenges ahead.

Alongside climate and nature priorities, the programme must contribute to a number of other public policy objectives. It should recognise the importance of access to nature for people's health and wellbeing. The public also support higher welfare, less intensive, livestock farming⁴. Furthermore, the expansion and intensification of agriculture has recently been highlighted by IPBES as a key driver of pandemics.⁵ ELM has a key role to play in addressing each of these.

ELM and the wider FFCP must not drift away from their original public goods purposes, and we are glad to hear assurances from Defra that this will not be the case. In this way, ambition should remain high for a decisive departure from the status quo, despite uncertainties associated with trade policy and the economic

²<https://www.wcl.org.uk/docs/Link%20farming%20and%20land%20use%20policy%20paper%20FINAL%20Sep%202017.pdf>

³ See Annex II for full list

⁴ <https://www.foodethicscouncil.org/resource/public-back-farmers-with-high-standards/>

⁵ <https://ipbes.net/sites/default/files/2020-10/IPBES%20Pandemics%20Workshop%20Report%20Executive%20Summary%20Final.pdf>

effects of coronavirus. In this paper, we set out proposals for core principles for ELM, the FFCP, regulation and the agricultural transition.

SECTION 1: THE SUSTAINABLE FARMING INCENTIVE AND THE EARLY AGRICULTURAL TRANSITION PERIOD

A package of transitional support is needed to fast-track environmental public goods delivery and support businesses in adjusting to the new policy landscape.

As the Sustainable Farming Incentive (SFI) is piloted and developed, it should work in a cohesive way with other schemes to prepare land managers for a greener future. If it is focused solely on tackling negative externalities and achieving resource use efficiency (so as not to overlap with Countryside Stewardship (CS)), it will deliver neither meaningful environmental outcomes nor value for taxpayers' money.

The transition to a public goods approach must bring farmers and other land managers along, by informing, consulting and making it attractive financially and in principle. This means providing a clear vision and the practical tools needed to work toward that vision. In the past, major industrial transitions have often been poorly managed, with communities being left behind and economic opportunities missed. In this shift of the way that land is managed, farmers and other land managers need clarity in advance and advice to enable them to transform their businesses to manage the shift toward public goods delivery.

At the same time as developing a SFI, developing the Countryside Stewardship programme through the transition period can ensure that existing environmental initiatives are maintained and enhanced. If the Countryside Stewardship offer is not expanded (through additional options for environmental land management and increased accessibility) alongside the introduction of the SFI, opportunities for land managers to engage with real public goods delivery, and ready themselves for what ELM should be, will be limited. It would also risk wasting over two years' worth of much needed environmental enhancement and delay progress towards the Government's environmental goals.

As the SFI is to become Component 1 of ELM, a low-ambition SFI would risk locking in a low-ambition element in ELM. This also means that, despite being an interim or prototype scheme, the SFI could set expectations and normalise practices that affect future, more ambitious engagement with ELM. Therefore, the SFI needs to be ambitious throughout the transition period to achieve good value for money, deliver public goods and represent the start of the ELM journey for many farmers and other land managers.

Key principle 1- A fair transition: A robust and coherent package of support is required to facilitate a safe and fair transition to a new agricultural and land management policy, which is based on the principle of public money for public goods. It should represent a decisive change in the purpose of payments, but make use of effective components of existing schemes which are proven to deliver public goods.

The transitional offer provided should be sufficient to help transform farming and land management businesses through the vital but seismic shift caused by reorientating public funding on the delivery of public goods. Funding, advice, training and guidance are key during this period.

One of the most difficult challenges will be a fair approach to bringing farmers up to compliance and a "new baseline" in a way that supports change without paying for things that ought to happen anyway. The transition should be underpinned by the "polluter pays" principle ideally through preemptive expenditure to prevent pollution. We recognise there are challenges in applying "polluter pays" to diffuse pollution, but they are not insurmountable. Defra could consider providing transitional support via the Productivity Grants scheme to improve compliance, where the availability of investment is a significant barrier, such as slurry storage, or where the negative externalities are not well covered by the existing regulatory framework.

This kind of provision for reaching basic compliance must be strictly time-bound and attached to a commitment from Government to improve regulatory compliance whilst filling existing regulatory gaps.

Land managers are facing a number of changes at once, so it is important that the transition scheme is available for as broad a range of participants as possible. Eligibility for the financial assistance schemes (e.g. the SFI and ELM national pilot and Productivity Grants) introduced during the agricultural transition should not be restricted to current Basic Payment Scheme (BPS) applicants. For example, the SFI standards could and should be available to small holdings, pig, poultry and horticultural systems.

However, the measures put in place do not need to reinvent the wheel- there are many tools and schemes already in existence which are well evidenced and established and which deliver public goods while providing good value for money.

For an effective and equitable transition between 2021-2024, the land management sector needs:

- A clear statement of policy direction that encompasses both farmers and land managers and reflects:
 - An integrated approach to land management. For example, the current approach to subsidies has created an artificial distinction between agriculture and forestry which has discouraged many landowners from planting or maintaining trees on their land. If the SFI will become Component 1 then it is essential we ensure the transitional package is open to all land managers.
 - A clear focus on environmental public goods. Post-war, farmers were encouraged to focus solely on increasing yield to feed the nation, yet this had negative impacts on the environment, climate, and the quality of our food. Government should help signal that increasingly, farmers and land managers are delivering a combination of food production, and public goods such as nature and heritage conservation, climate mitigation, and enhanced public access. This approach will deliver benefits for the environment but could also boost profitable and ensure resilient food and farming and other land management sectors.
 - The expectation of a new greener baseline, which can support nature's recovery. At the end of the transition period, it must be clear that "business as usual" will be a greener, more sustainable kind of land management. Land managers need certainty about the basic standards they will be expected to meet before additional support is available.
- A commitment to funding a programme of training, skills development, business and environmental advice to assist farmers and land managers transition to an unsubsidised more market facing world, in which public money is focused on the delivery of public goods. This could focus on funding to develop a "build back greener" initiative across government to include:
 - Targeted business advice covering issues such as financial planning and budgeting for those particularly vulnerable to the removal of BPS including upland and mixed farms. In 2019, a report for the RSPB, National Trust and The Wildlife Trusts estimated that, for the most vulnerable uplands farms, this would cost £3m in England⁶.
 - Access to comprehensive and plentiful environmental advice and training sessions and workshops, made available to help upskill the industry and support the progressive adoption of environmental land management interventions.
- Time-limited financial support, in the form of productivity grants or interest-free loans. This will help businesses adapt to new models, particularly to support a shift to more low input, high environmental public good output, high welfare, high nature value and high food quality approaches than is currently

⁶ Rayment, M. (2019) Paying for public goods from land management: How much will it cost and how might we pay? A report for the RSPB, the National Trust and The Wildlife Trusts

the case. In addition, capital support available to invest in on-farm infrastructure may be justified, including to address systemic issues with non-compliance with regulation. However, this should be clearly time limited, and linked to a wider regulatory strategy (as above) to ensure that systemic issues with regulatory compliance are permanently addressed through this one-off investment. As an example, any support for slurry storage to address high levels of non-compliance with SSAFO regulations should be linked to the introduction of permitting for dairy herds above a certain size, as proposed by the Clean Air Strategy, as well as clarity regarding fair, effective and dissuasive sanctions for non-compliance following a transition period

- A coherent financial offer that funds public goods delivery, this should include:
 - Investment in the Higher Tier of CS to enable more to access this scheme and to ensure greater progress against key government commitments
 - Investment in existing HT and HLS agreements to provide access to vital capital works necessary to fund the management of protected sites and priority habitats, landscape and heritage features. This could include more targeted intervention to help transition economically marginal high value farming systems to the new agricultural policies.
 - As the SFI (Component 1) is rolled out, this scheme should be ambitious, focusing funding on the delivery of public goods and not solely- or mainly- on reducing negative externalities and/or encouraging business-as-usual interventions.
 - The early version of the SFI (Component 1) should therefore support measures that clearly deliver additionality by way of encouraging a more regenerative approach to farming, for example improving soil organic matter (cover cropping, herbal leys, increasing sward diversity), creating and enhancing on farm habitats (e.g. beetle banks, flower and seed rich habitats, floodplains, patches of unimproved grassland, hedgerows and agroforestry) and supporting the incremental adoption of integrated pest management.

Defra is also considering introducing an 'exit scheme', using lump sum payments to facilitate retirement from farming. This is as an optional scheme and would be in place of farmers continuing to receive de-linked payments throughout the transition period. Whereas de-linking was a standalone policy without conditions, Defra is proposing to apply basic rules to the optional lump sum payment, such as determining who should be eligible and whether applications need to be prioritised to manage affordability. What it does not propose is any conditionality around how the payment will be used. With this in mind, we would suggest exploring what these conditions could include in order to ensure best value for public money. For example, they could require that:

- If a lump sum exit payment is received but the land is not sold, an ELM or CS contract could be compulsory to ensure existing environmental outcomes are maintained or new ones achieved in return for the public investment;
- If an exit payment is received, and the land is not sold but rented out, a 10-year+ Farm Business Tenancy (FBT) could be compulsory, to ensure stability of tenancy;

If Defra do not attach these sorts of conditions to achieve stated policy objectives with public money, we would question why this policy is being pursued.

For de-linking as a whole, a new regulatory framework must be operable and in place before beforehand to ensure that land managers cannot simply claim lump sum publicly funded payments and farm while degrading the land, causing environmental harm and not delivering public goods. We also query whether the amounts farmers can receive will achieve the objective of leaving the farming practice and seeking opportunity elsewhere.

SECTION 2: ENVIRONMENTAL LAND MANAGEMENT

As the plans for ELM are developed, we are concerned that the purpose of ELM is shifting away from public goods delivery, particularly with the direction being taken through the Sustainable Farming Incentive. All three Components of ELM (SFI, Local Nature Recovery and Landscape Recovery) need to be geared toward delivering for nature and for climate, giving farmers and other land managers the tools and incentives to manage their land to meet the Government's environmental and climate objectives.

This section outlines our key concerns, as well as presenting a vision for the future of ELM.. Annex II provides a categorisation of activities under each outcome that we believe should be regulated or funded under ELM Components 1, 2 and 3 or delivered by other policy mechanisms, which reflect the practical application of this vision. This builds on a previous analysis undertaken by Link in 2017,⁷ updated to reflect the current policy context

ELM also needs to fit within a wider national and international policy context. It must be fully integrated with the Nature Recovery Network and proposed Local Nature Recovery Strategies. It must also be based on a coherent and comprehensive understanding of future strategies for farming in the future. The Defra Policy Progress paper on Future Farming⁸ focuses only on high-technology, input driven farming systems and does not give scope to alternative approaches (for example agroecological and organic approaches) that are important to maintain a diversity of options for the future.

As well as our international commitments on SDGs, biodiversity and climate change, agriculture policy needs to reflect the importance of reducing both our domestic and our international food footprint.

Ultimately for ELM to be successful, it needs to achieve a balance between three key features –

1. Environmentally effective (deliver public goods and demonstrable environmental benefits)
2. Practical for farmers and land managers
3. Deliverable and auditable for Government

ELM Scheme Objectives

Link proposed the following scheme objectives in response to the ELM Policy Discussion Document:

1. To reward the delivery of environmental public goods to help drive the recovery of the natural environment in a generation.
2. To drive systemic change to support the progressive adoption of regenerative, agroecological and organic farming and land management practices.

The three-component system

Link broadly supports the three-component structure proposed by Defra, however, these Components need clear and stretching objectives and SMART targets based on environmental need.

⁷ Achieving this second objective requires support to help change attitudes towards the environment and the way people experience it, ensuring all involved view improving the environment as a core part of their business activities, not a bolt-on.

<https://www.wcl.org.uk/docs/Link%20farming%20and%20land%20use%20policy%20paper%20FINAL%20Sep%202017.pdf>

⁸ Defra Future Farming policy discussion paper. February 2020

We propose the following as high-level purposes of each of the Components of ELM⁹:

- Component 1 – **Sustainable Farming Incentive** – ‘The Regenerative Component’, an accessible component, providing all farmers and land managers the opportunity to protect and enhance the natural capital and heritage assets and public access on their land and receive rewards for the public goods they deliver. Even the highest yielding systems should be sustainable, reduce inputs and support positive outcomes for nature, and people on-farm.
- Component 2 – **Local Nature Recovery** – A high nature value component, driving the delivery of national environmental objectives in a locally responsive way, including the maintenance, enhancement, and creation of key natural capital and heritage assets including protected sites and priority species and habitats whilst also facilitating public access. This Component should support a range of nature friendly farming and woodland systems, including lower yielding and lower input systems such as organic and especially those that provide areas of semi-natural habitats.
- Component 3 – **Landscape Recovery** – A focused scheme to support landscape-scale land use change to enable nature’s recovery (and the beneficial management of the historic environment and public access where appropriate) and the creation of nature-based solutions, including rewilding, to climate change.

Defra needs to provide further clarity regarding the content of each component and how they interact, to ensure a robust and comprehensive scheme, capable of making a significant contribution to the delivery of the 25 Year Environment Plan goals.

Key principle 2- A transformational transition: The Sustainable Farming Incentive Component must not reinvent the status quo; it needs to be able to support farmers and land managers to transform their farm and rural businesses, while recognising that a healthy environment underpins a resilient farm and rural business. Rewards should be directed towards practices that rebuild vital natural assets such as pollinators, soil health, heritage assets, key habitats and farmland plants and wildlife, for example.

We fully support the implication that the Sustainable Farm Incentive will go beyond the baseline, encouraging positive land management. The SFI Component should be about delivering public goods, improving the health of the land and the wildlife that depends on it. It is entirely possible to achieve ambition through an accessible and practical scheme. We should avoid repeating the mistake of Entry Level Stewardship. The SFI should be sufficiently flexible, providing farmers and other landowners with the tools needed to deliver public goods, which in turn will improve the health of their land and improve productivity.

This Component should not focus funding on addressing negative externalities (e.g. resource use efficiency) or basic good practice measures (e.g. contour ploughing, crop choice or feed efficiency). It is crucial to consider: the value for money, balance between private and public benefits, and the role of regulatory compliance, and we will encourage the furthering of this approach as the SFI is developed and rolled out.

As the SFI is rolled out, Defra should consider encouraging the adoption of resource use efficiency measures for farming and forestry via entry requirements and where appropriate funded by the Productivity Pathway and not ELM. However, the farming systems implied in the Productivity Pathway, as defined in the Defra Future Farming paper¹⁰, focus on high tech, input systems, with a path dependency that does not favour alternative agroecological or organic approaches, with proven efficacy. This inevitably limits the opportunity

⁹ We have used the new designations proposed by Defra for each of the three Component s.

¹⁰ Ibid.

to exploit nature-based solutions. Diversity should be the cornerstone for the development of productivity, whilst a broader definition of efficiency would help to foster the provision of public goods.

Negative externalities including water and air pollution should be addressed through regulation. Farmers and land managers must be given the tools and incentives to mitigate harm while delivering positive outcomes for the environment.

The proposed shift in focus away from positive land management to delivery of public goods, ignores the potential of (and urgent need for) ELM SFI to be pitched much more ambitiously and to drive fundamental changes: to land management, to farming and forestry systems and to business norms. The status quo is not an option for the environment or businesses¹¹.

More detail on what should be included in the SFI Component is provided in Annex II of this document.

Key principle 3- Environmental objective-led resource allocation: All components of the scheme will play a vital part in delivering key government commitments and should be afforded equal priority in scheme design, piloting and delivery. Defra should ensure the budget for each Component reflects environmental need, to ensure ELM can make a significant contribution to the delivery of environmental commitments.

Whilst we understand the need to focus on the development of The Sustainable Farming Incentive Component given its wider applicability to the farming community, we are concerned that this Component both excludes other land managers and also, with the lack of focus on The Nature Recovery Component and Landscape Recovery Component to date, the risk that what is rolled out at the end of 2024 may not contain the full ELM offer, leading to a gap in support for high nature value activity, high animal welfare and improved access to nature.

If the SFI is to be the scheme that brings the sector up to a higher standard of environmental land management across the board, the Local Nature Recovery Component and Landscape Recovery Component should be the real heft of environmental delivery, making significant contributions to, among other things, the creation of a national Nature Recovery Network and nature-based solutions to tackle climate change. However, the delivery of climate objectives through Components 2 and 3 must not come at the expense of biodiversity and nature-based objectives.

The Local Nature Recovery Component and the Landscape Recovery Component need to be afforded equal priority in policy development terms as the SFI Component. The lack of clarity around when Local Nature Recovery and the Landscape Recovery Components will be piloted does not suggest that this is the case. Many land managers are ready to deliver under these two higher Components now and should have the opportunity to do so, particularly through the pilot scheme.

Key principle 4- Vertically integrated: The Local Nature Recovery Component should be able to support the delivery of national environmental and access objectives in a locally responsive way, supporting existing and expanding high nature value farming systems and wildlife species and habitats (for example through organic land management).

Whilst ELM should build upon lessons learned from past schemes, it is vital to recognise that despite notable success, existing and legacy schemes have been insufficient to tackle declines in biodiversity. Evidence suggests that at least 30% of farms by area would need to manage at least 10% of their land for nature to

¹¹ <https://www.nffn.org.uk/wp-content/uploads/2020/10/20012-NFFN-Report-Nature-means-business-DIGITAL-1.pdf>

recover farmland wildlife. Higher Level Stewardship only achieved an uptake of around 14%¹². ELM needs to be bolder, more ambitious and more effective than its predecessors to drive real change.

Key principle 5-early action at landscape scale: The Landscape Recovery Component should be attractive to land managers and be fit-for-purpose to deliver at pace.

Landscape-scale approaches to nature's recovery will be vital for reversing nature's decline and delivering on Government commitments such as designating 30% of land for nature by 2030, ambitions in the 25YEP and most likely targets under the upcoming Environment Act.

This means that the Landscape Recovery Component must be comprehensive in design, but also be attractive to farmers and other land managers as a viable way to manage their land. It also requires urgency, meaning that it must be ready to deliver at-scale by 2024 at the very latest, while in the meantime providing incentives for land managers to lay the groundwork for projects in advance of 2024. The Government's net zero commitments and other ambitions such as those in the 25YEP mean that there is no time to waste in delivering at-scale.

It is also vital that when the Landscape Recovery Component is designed, it must take into account the commons and be accessible to the complex and varied tenure types that exist within the commons across England. There should also be ambitious public access provisions where appropriate.

ELM objectives

Key principle 6- SMART objectives: Defra needs to develop a series of SMART objectives for ELM to guide scheme design and help identify priorities for funding.

The lack of clear, SMART objectives for ELM, and for each of its components, is a major concern that we have raised repeatedly, and we are very supportive of indications from Defra that these will be adopted.

Without knowing the contribution ELM is expected to make towards key policy objectives and targets – set out in the Agriculture Act, the 25 Year Plan, net-zero commitments, the forthcoming Environment Bill and elsewhere – it is impossible to engage meaningfully with detailed policy development. For example, while we appreciate that the draft ELM Outcomes Framework was shared with some stakeholders, the consultation exercise was inherently flawed due to the limited number of stakeholders who accessed it, a lack of transparency, as well as a lack of clarity about what the c.1,200 actions were potentially expected to contribute towards.

With a clearer set of objectives, farmers and other land managers should be inspired by the possibility to achieve more with their land, and to be part of a wider vision to deliver a flourishing countryside and natural environment. We look forward to the development of SMART objectives going forward.

Lack of progress on regulatory reform and the role of regulation

Key principle 7- firmly and fairly enforced: A robust regulatory system based on the polluter pays principle is essential to tackle negative externalities from farming and forestry and to underpin a new policy based on public money for public goods. Defra should be developing the financial assistance scheme (e.g. ELM) and the new regulatory system in tandem to ensure a cohesive and effective package.

We had been expecting an "intensive" consultation on regulatory reform this Autumn following statements made by Lord Gardiner and Government Whip Baroness Bloomfield of Hinton Waldrist in the House of Lords¹³.

¹² Sharps, E. et al (2019). [Report to Natural England on ECM_52672: Predicting the extent of agri-environment provision needed to reverse population declines of farmland birds in England](#)

¹³ <https://hansard.parliament.uk/lords/2020-09-15/debates/6CA68B21-0327-495E-AF9B-718248E84E64/AgricultureBill>

The delay in opening a formal consultation is deeply concerning and the lack of detail on regulatory reform – which has been expected since Dame Glenys Stacey’s 2018 review – is proving increasingly problematic for effective development of ELM and other incentive schemes.

The intimate connection between regulation and incentive should mean that these approaches are developed in tandem, rather than one retrofitted to the other. Ideally, for the end user, the two should exist on a continuous spectrum with seamless integration of monitoring, advice and enforcement.

Unless regulatory reform is progressed rapidly and decisively, and brought in alongside ELM, the Animal Health and Welfare Pathway and productivity schemes, there is a high risk that the end result will be parallel processes that do not cohere and are perceived as ungainly by the end user. It could also mean that the regulatory baseline that should underpin incentive schemes will be weak and poorly enforced, when it should be strengthened in order to raise standards in the sector and ensure that there is no regression after the loss of cross compliance. This will require increased resources for regulators already feeling the pressure of budget cuts such as the 57% reduction in the Environment Agency’s funding for environmental protection between 2010 and 2019¹⁴.

Key principle 8- the polluter pays: ELM should not pay to meet regulatory standards, existing elements of cross-compliance or basic good practice. Instead, these should be pro-actively enforced, for example through payment eligibility and penalties.

While there is logic in paying to improve the sustainability of farming and forestry through well-evidenced whole-system approaches (e.g. organic), paying land managers to reduce negative externalities from their business is not a good use of public money. Our analysis in annex II highlights various activities that, were they to be paid for through ELM, would amount to ‘public money to avoid public bads’. For example:

- Those that exist in current regulations but are often poorly enforced e.g. Farming Rules for Water, disposal of hazardous chemicals, rights of way.
- Others that exist in current regulations, but compliance requires too much capital and therefore may warrant time-limited financial support (e.g. SSAFO).
- Others still which do not exist in current regulations but, to plug gaps arising from the loss of cross-compliance and to be consistent with the Polluter Pays Principle, should be regulated for in future (e.g. hedgerows, new GhG/climate regulations).

Payments made under the new ELM regime should be conditional upon recipients fulfilling existing legal requirements relating to public access, environmental standards and animal welfare. Penalties for non-compliance should also be embedded and/or fulfilling these requirements could be a pre-condition of entering into the SFI Component of ELM. For a more detailed analysis of regulatory gaps, see Annex I.

Coherence between ELM and other incentive schemes

Similarly, how ELM, the Animal Health and Welfare Pathway, Productivity and other incentive schemes will integrate is critical – to ensure that each policy delivers its own objectives efficiently, and end users understand the Government’s complete offer in order to make informed business decisions. As it stands, the Defra Future Farming policy lacks coherence and points only to high-tech input-based approaches. This misses out on the

¹⁴ Letter to The Times from Emma Howard Boyd, Chair of Environment Agency (3 August 2019). <https://www.gov.uk/government/news/letter-to-the-times-from-emma-howard-boyd-chair-of-environment-agency>

opportunity for other approaches, already proven to work well at scale. Fostering diversity is important for resilience.

The value of a holistic, systems-based approach

Key principle 9- A whole-holding approach: all components of ELM need to help transform farming and forestry, helping to reframe a healthy environment as central to a resilient business as opposed to a bolt-on or luxury. As a minimum, the government should be supporting the adoption of whole system approaches (such as organic) as they reduce negative externalities and deliver public goods.

Whole-systems approaches, alongside other methods – are repeated under the delivery of each objective in our analysis in Annex II. This is because they are well evidenced as delivering a wide range of public goods and providing good value for money. It is these kinds of whole-system approaches that will enable the sector to move away from the historic parcel-based approach, where improvements on individual land parcels are set within a wider context of continuing unsustainable practice. We conclude that the cross-cutting land management interventions that deliver the best value for money could be adopted almost universally, and should therefore be supported by the Nature Recovery and Landscape Recovery Components including:

- Agroecological - Agroecology is the application of ecological concepts and principles in farming. When applied correctly, it can help to reduce emissions and help store carbon in soils, trees and hedges, and promote on farm wildlife and pollinators through the creation and maintenance of on farm habitats and lower chemical inputs. Organic and agroforestry are two examples of agroecological approaches that are well known and operate at scale.
 - Organic - the only legally recognised systems-based approach to land management. All organic farmers and growers are required to meet a strict set of standards. These standards guarantee higher animal welfare, fewer pesticides, fertilisers and antibiotics and no GMOs. Organic practices also support healthy soil and more on-farm wildlife.
 - Agroforestry – farming that combines trees with arable, horticultural or pasture-based farming and (which can also be organic) can improve soil organic matter and enhance on farm wildlife
- Regenerative - regenerative agriculture is a set of farming/land management principles and practices that seeks to rehabilitate and enhance the entire ecosystem of the farm by placing a heavy premium on soil health with attention also paid to water management, fertilizer use, and more. It is a method of farming that aims to improve the resources it uses, rather than destroying or depleting them. Practices include reduced tillage, permanent grasslands, cover-cropping and the use of herbal leys, and reducing pesticide and fertiliser use.

A holistic view should be taken of the public goods that each holding provides. For example, if standards are used for the SFI Component, they should avoid a narrow, siloed approach. Instead, the land manager should be able to integrate, for instance, provision of wildlife habitat with enhanced soil health and integrated pest management. Organic land management does this and thus has a place in all three-components; it can be used to drive larger scale changes, consequently enhancing public good delivery. A holistic view should also be taken where a holding has a range of important heritage, landscape or archaeological features, such as ancient grasslands, veteran trees, traditional farm buildings, historic hedgerows or earthworks. The management of all of these features should be integrated so that the land manager understands the different ways in which their holding is contributing to the public good. Land management plans should be the cornerstone of this integrated approach.

Conditions of ELM contract

Key principle 10- Open to all land managers meeting basic green standards: Entry requirements and conditions are vital to create a baseline standard for farmers and other land managers receiving public money. It must ensure that at the very least, land managers are meeting a minimum set of requirements that can be demonstrated to deliver public goods. On eligibility there should be no ‘active farmer test’ and the de minimis level should be kept as low as possible proportionate to administration costs.

We propose a (non-exhaustive) list of conditions to which an ELM contract should be subject in Annex II. They have been identified as such because they:

- Are regulatory requirements (as above)
- Should be deemed good practice and represent limited value for money. For example:
 - Appropriate crop rotations
 - Contour ploughing
 - Nutrient and soil management plans and the implementation of these plans
 - Irrigation timing
 - The safe application of pesticides including timings and techniques
 - The safe use of sheep dips
- Require near-universal uptake and can be delivered at no net cost to the land manager. For example:
 - Animal feed efficiency
 - Crop choice
 - Avoid tracking on wet soils

Key Principle 11- Integration with other policies: Synergies should be maximised and objectives aligned between ELM and other policy drivers and funding mechanisms to ensure cohesiveness and complementarity. At the same time, care should be taken to avoid the dismantling of ELM as a holistic approach to environmentally sustainable farming and land management and ambitious environmental delivery.

Because of its importance in delivering against the environmental goals of the 25YEP and the Net Zero Carbon Emissions Target, more explicit linkages need to be made between ELM and the Environment Bill, not least in terms of targets and Environmental Improvement Plans helping to prioritise support where it is most needed and making it clear how progress is to be measured. In this respect, it should be made clear how funding will be appropriately allocated across all three components of ELM according to an objective and independent assessment of environmental need.

In addition, ELM will need to be integrated with other mechanisms proposed under the 25YEP, such as Local Nature Recovery Strategies, Private Markets and Biodiversity Net Gain, the relationship with such initiatives and benefits to a farm and land management businesses being made clear. For example, the impact of public funding could be enhanced (e.g. complementary private finance) or more lasting funding secured (e.g. conservation covenants) through ‘stacking’ of deliverables or outcomes for different types of payment mechanism.

Likewise, synergies should be maximised, and objectives aligned (whilst “double counting” avoided), between ELM and other funds such as the Nature for Climate Fund, Green Recovery Challenge Fund and Natural Environment Readiness Fund to ensure the best funding mix can achieve the strongest contribution towards national and local environmental priorities, both in the short and long-term.

We would welcome the development of a road map of all the committed/proposed funding streams and objectives to establish what each scheme could deliver individually and then collectively across them all. For instance, for woodland this would include mapping what each scheme could deliver in tree planting to include ELMs components 1, 2 and 3, the England Tree Strategy, Nature for Climate Fund, the Forest Carbon Guarantee as well as other potential sources of private finance

Whilst it would be acceptable to look to other funding instruments where a common goal exists, as with the Landscape Recovery Component and the Nature for Climate Fund, any additional funding made available during the transition period should not lead to a reduction in total ELM funds but allow more ELM funding to be spent on increasing the ambition and scaling up the wider ELM national pilot. This principle is important, in both the short-term and long-term, to avoid the dismantling of ELM as a holistic approach to encouraging more sustainable farming, land management and environmental delivery.

CONCLUSIONS AND RECOMMENDATIONS

We are at a crucial turning point in the future of land management in England, which will determine what land managers do for at least the next decade. As a cornerstone of land management policy in England, ELM must be unambiguously designed to deliver on the promise of public money for public goods, not only mitigation of damage.

It must be designed to address climate change through nature-based solutions, but it must also be designed to address the biodiversity crisis. This requires a clear vision throughout ELM design which aims to restore habitats as well as the health and productivity of the landscape. There is a risk that in aiming to meet climate targets, budgets and policy design will be narrowed to focus on quick-fix technologies and solutions such as non-native mono-cropped commercial tree-planting/forestry¹⁵. This must be avoided by maintaining a clear vision for nature's recovery throughout all three Components of ELM.

The early transition will play a crucial role in creating this shift, and there is a risk that if the early agricultural transition period fosters a business-as-usual approach this will hinder the entire direction of land management in England for years to come. During the transition period, as BPS is being phased out, CS is continuing and the SFI is being developed and delivered, there needs to be a coherent package for farmers and other land managers to safely transition to a public money for public goods approach. The SFI should not be competing with the CS, they should complement each other to ensure that any land managed under either scheme delivers for nature.

Whilst ensuring that the SFI delivers change, farmers and other land managers should be adequately supported through the provision of training and tools to make the transition and begin addressing the environmental challenges we face and how this can help farmers and other rural businesses.

To deliver the objectives of the 25YEP, Net Zero, the protection of 30% of land by 2030 and any targets under the Environment Bill, the ELM Local Nature Recovery Component and Landscape Recovery Component must be given as much – if not more – prominence in policy development over the coming year as the ELM SFI is introduced. Comprehensive design and importance given to all Components will help to increase eventual uptake of these Components, which is needed to curb biodiversity decline and start nature's recovery.

Lower yield, lower input farms, which also provide semi-natural habitats should be rewarded in the Local Nature Recovery Component with an emphasis on landscape-scale cooperation, while in the Landscape

¹⁵ Priority should be for native woodland/tree cover expansion and improving existing native/ancient woodland to tackle biodiversity and climate crises at the same time (Ennos et al. 2019).

Recovery Component landowners should have the framework needed to deliver on larger landscape-scale projects for nature's recovery.

ELM, particularly Component SFI, should not be used to meet the regulatory requirements; this does not provide good value for money, nor will it result in the standard of land management needed to address ecological decline. Instead, a robust regulatory system based on the polluter pays principle is needed to raise some areas of farming and land management to the standard required. Government should come forward with a formal consultation in early 2021 at the latest.

Whole system approaches such as organic can also help to deliver a multitude of benefits, as well creating resilience, particularly for farmers. These whole system approaches should be recognised and rewarded within ELM, as they both reduce negative externalities and deliver public goods.

Finally, funding must be fully synthesised with other funding streams for nature's recovery, but must not lead to a compromise of funding, particularly for the high Components in ELM.

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A Rocha UK

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British Canoeing

Earthwatch

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National Trust

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Soil Association

The British Mountaineering Council

The Open Spaces Society

The Ramblers

The Mammal Society

The Wildlife Trusts

Woodland Trust

WWF

WWT

This paper is also supported by the English Organic Forum**ANNEX 1. SUMMARY OF REGULATORY GAPS AND POSSIBLE SOLUTIONS FOR ENVIRONMENT AND CLIMATE¹⁶**

Environmental issue	Gaps	Reason for gaps	Proposed Solution
Soils	<ul style="list-style-type: none"> No requirements to protect carbon rich soils 	Existing gap	Introduce ban on ploughing of peatland that has not been ploughed previously.
	<ul style="list-style-type: none"> Requirement to protect soils from wind erosion Provision of minimum levels of green cover 	Removal of XC Removal of XC	Add to the new Farming Rules for Water under Rule 6 for soil management.
Climate mitigation	<ul style="list-style-type: none"> No regulation to require emissions reductions or to enhance carbon sequestration 	Existing gap	<ul style="list-style-type: none"> Introduce ban on ploughing of peatland and drainage of moorland Regulations/codes of practice to improve moorland management. Accelerate progress in improving nutrient (including slurry/manure) management Possible introduction of targets for climate mitigation for agriculture specifically
Water quality	<ul style="list-style-type: none"> Requirement for buffer strips (green cover) next to water courses outside NVZ Requirement for land within flood zone 3 to adhere to appropriate management options Requirement to keep a farm map with surface water / boreholes etc marked – outside NVZ 	Removal of XC Existing Gap Removal of XC	<ul style="list-style-type: none"> Add to the new Farming Rules for Water

¹⁶ <https://ieep.eu/uploads/articles/attachments/382e1f08-fa94-412a-9314-bbbfcf194d53/Post%20EU%20exit%20Regulatory%20Framework%20-%20Final%20-%20Jan%202020.pdf?v=63747936653>

Landscape features	<ul style="list-style-type: none"> • Hedgerows – hedge cutting ban period / permissible dates for hedge laying/tree coppicing / ban on cultivation etc within 2 m of a hedge • Ban on the removal of earth/stone from dry stone walls and earth/hedgebanks • Some landscape features are not covered by any regulations (e.g. ponds) 	<p>Removal of XC</p> <p>Existing gap</p> <p>Removal of XC</p>	<ul style="list-style-type: none"> • Amendments to the Hedgerow Regulations. • Possible new regulations for other landscape features. • Possible broadening of the Hedge Regs to include other landscape features.
Pesticides	<ul style="list-style-type: none"> • No requirements on farmers to adopt more ambitious forms of Integrated Pest Management (IPM) 	Existing gap	<ul style="list-style-type: none"> • Could be a regulatory requirement or promoted via incentives
Climate adaptation	<ul style="list-style-type: none"> • No regulation requires land managers to take actions required to adapt to climate change 	Existing gap	<ul style="list-style-type: none"> • Possible new rules in relation to land restructuring / new buildings. • Possibility to make a condition of support.

ANNEX 2. INTERVENTION LOGIC ANALYSIS AND CATEGORISATION OF LAND MANAGEMENT ACTIVITIES TO APPROPRIATE POLICY MECHANISMS

This analysis builds on a previous analysis undertaken by Link in 2017,¹⁷ updated to reflect the current policy context. It provides a (non-exhaustive) categorisation of activities under each outcome that we believe should be regulated, or funded under ELM Component 1 (and SFI), 2, 3 or delivered by other policy mechanisms.

Biodiversity and ecological networks

Assessment of intervention logic for biodiversity and ecological networks	
Public goods	A 'pure' public good, biodiversity is both non-rival and non-excludable.
Market failure	Subject to high degree of market failure, largely as a consequence of public good characteristics. Attempts to secure at scale through market mechanisms either limited or unsuccessful.
Scale of need	Significant financial need, and robust evidence base. c£882 million / year – figure based on the Scale of Need model <i>from RSPB/NT/TWT Rayment 2019 paper</i>
Strength of policy and legislative drivers	Agriculture Bill clause 1.1.a: <i>Managing land or water in a way that protects or improves the environment.</i> Significant drivers for investment, primarily the 25 Year Plan and forthcoming legally binding targets for biodiversity in the Environment Bill. Strong international

¹⁷

<https://www.wcl.org.uk/docs/Link%20farming%20and%20land%20use%20policy%20paper%20FINAL%20Sep%202017.pdf>

	commitments associated with the Convention on Biological Diversity, Sustainable Development Goals, Bern Convention and Ramsar Convention.	
Public-Private benefit	Although there is increasing evidence of ecosystem service benefits for individual farmers in some instances, e.g. pollination, these are poorly quantified. Therefore, significant case to provide 100% funding for any land management interventions for biodiversity.	
Polluter Pays Principle	Established public policy model does not generally treat biodiversity decline as pollution. Often, agricultural operations damaging to biodiversity (e.g. silage cutting during bird breeding season) are seen as essential and therefore unintentional, with negative impacts therefore inevitable. This has built a model whereby steps to restore biodiversity are seen as beyond the polluter pays principle. Pervasive negative impacts, however, are associated with pollution (e.g. diffuse water pollution and impacts of pesticides on non-target species). A consideration of the polluter pays principle will therefore be important.	
Regulation or incentive	The role of regulation is significant in preventing intentional damage to priority species and habitats, e.g. SSSIs, hedge cutting restrictions in breeding season, etc. Caution is therefore needed to ensure that public money builds on regulatory baseline and incentivises positive action, as opposed to preventing harm.	
Categorisation of land management activities that deliver biodiversity and ecological networks into appropriate policy mechanisms (not exhaustive)		
Regulation	Now	<ul style="list-style-type: none"> • SSSI maintenance and monitoring • Hedge-cutting restrictions during breeding season
	In future	<ul style="list-style-type: none"> • Silage cutting during breeding bird season
ELM	Comment	<ul style="list-style-type: none"> • Many of the activities outlined below deliver multiple public goods (not just biodiversity)
	Component 1 (& SFI)	<ul style="list-style-type: none"> • Organic • Agroforestry (silvo-arable and silvo-pastoral systems) • Meaningful IPM actions e.g. pesticide free buffer strips, provision of pollen and nectar-rich habitat • Reduced tillage and fertiliser use • Herbal leys, cover and inter-cropping • Creation and maintenance of simple-to-do wildlife habitat e.g. flower-rich margins (with additional incentives to provide a diversity of appropriate habitats across the holding) • Creation of simple habitat corridors e.g. B-Lines for pollinators • Creation and management of ponds, ditches and other freshwater features on-holding • Appropriate management of hedgerows (e.g. significantly reduced cutting rotation (3-5years), trees in hedgerows, individual trees including veteran trees and ancient trees) •
	Component 2	<ul style="list-style-type: none"> • Creation, restoration and maintenance of more complex-to-do wildlife habitat e.g. species-rich grassland (including wet grasslands/floodplains), woodland, heathland, peatland, saltmarsh, wetland • Additional incentives for collaboration around habitat creation including landscape scale habitat corridors • Invasive species control (must be at sufficient scale and appropriately located in catchment to achieve sustained benefits) • Targeted measures to support species that are of high local and/or national priority (e.g. curlew, marsh fritillary or ciril bunting)

	Component 3	<ul style="list-style-type: none"> Large-scale or landscape scale, habitat creation or rewilding projects
Other policy mechanisms	ELM is one of the most important policies for delivery of 25YEP commitments around biodiversity and a Nature Recovery Network. Other key policies include Biodiversity Net Gain, Nature for Climate Fund etc	

Landscape character and historic environment

Assessment of intervention logic for landscape character and historic environment		
Public goods	A 'pure' public good, landscape character and many historic features are both non-rival and non-excludable.	
Market failure	Subject to high degree of market failure, largely as a consequence of public good characteristics. No significant attempts to secure at scale through market mechanisms.	
Scale of need	Strong evidence on scale of need associated with historic environment ¹⁸ , with scale of expenditure modest relative to other objectives. Evidence of scale of need for landscape character more limited.	
Strength of policy and legislative drivers	Agriculture Bill clause 1.1.c: <i>managing land or water in a way that maintains, restores or enhances cultural or natural heritage.</i> International policy drivers limited to European Landscape Convention. Stronger domestic drivers associated with 25 Year Plan and Historic England obligations with regard to Scheduled Ancient Monuments.	
Public-Private benefit	Limited private benefits. Some specific opportunities to 'market' historic interest at site/farm scale, but not reliable in securing market return nationally.	
Polluter Pays Principle	Established public policy model does not treat degradation or lack of management of landscape/historic features as pollution.	
Regulation or incentive	Role for regulation significant in preventing intentional damage to protected landscape/historic features, e.g. Scheduled Ancient Monuments. Caution therefore needed to ensure that public money builds on regulatory baseline and incentivises positive action, as opposed to preventing harm.	
Categorisation of land management activities that deliver landscape character and historic environment into appropriate policy mechanisms (not exhaustive)		
Regulation	Now	<ul style="list-style-type: none"> Scheduled Ancient Monuments regulations
	In future	
ELM	Comment	<ul style="list-style-type: none"> Heritage is not just present in, built features, but also in natural features (e.g. hedgerows, meadows, soils, veteran trees) and landscapes as a whole. As such, the natural and historic environment require integrated, holistic management.
	Component 1 (& SFI)	<ul style="list-style-type: none"> Organic (healthier soil protects archaeological features) Reduced tillage and fertiliser use Maintenance of on-holding built and natural features including hedges, traditional farm buildings, archaeological features, ponds, ditches, veteran trees etc.
	Component 2	<ul style="list-style-type: none"> Provision of non-statutory access to and educational signage around built and natural heritage and landscape features
	Component 3	<ul style="list-style-type: none"> Component 3 habitat creation or rewilding projects should consider the heritage of the landscape in question and seek to integrate it into project delivery and provide access to and engagement with it for the public.

¹⁸ Historic England (2012) Landscape & Historic Environment Evidence, Measures and Mechanisms for the Next Rural Development Programme. July 2012

Other policy mechanisms	
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Improved soil function

Assessment of intervention logic for improved soil function		
Public goods	Soil function exhibits public good characteristics, but this can depend on circumstances such as land control and ownership. As a generally private resource, soil and its use can be both rival and excludable, and it is in the long-term interests of private landowners to manage soils sustainably to retain agricultural productivity. In the short term, however, there can be private gains from unsustainable use. The long-term benefits to society of better functioning soils are non-excludable and non-rival. The extent to which soil is a public good are therefore dependent on temporal factors.	
Market failure	The short-term gain arising from unsustainable use referred to above points to significant market failure. Whilst it is in the long-term commercial interests of farmers to manage soils sustainably, there is rarely a market return in the required timeframe to cover the associated costs, such as bringing in organic matter and establishing cover crops, even if these investments may yield a long-term benefit. The market failure is therefore temporal, which may suggest that mechanisms such as loans could play a role in the capital investment needed to address soil degradation.	
Scale of need	Significant need associated with scale of degradation (estimated to cost £1.2bn per year), although for the reasons outlined above it would be inappropriate to remedy this entirely through the public purse.	
Strength of policy and legislative drivers	Agriculture Bill clause 1.1.j: <i>protecting or improving the quality of soil</i> . 25 Year Plan commitment to sustainable management of soils by 2030 (supported by CCC recommendation). Also, strong drivers associated with climate change and water quality will drive action for soil function.	
Public-Private benefit	Significant private benefits associated with sustainable soil management, particularly in medium-to-long term.	
Polluter Pays Principle	Proper implementation of the polluter pays principle needed to ensure society does not bear the costs of inappropriate management, such as maize cultivation on slopes at high risk of erosion.	
Regulation or incentive	Significant role for regulation to address soil degradation. Soil erosion arising from inappropriate management can cause major negative externalities for society, such as poor water quality, increased flood risk and high levels of greenhouse gas emissions. Caution needed to ensure that public funding is targeted toward incentivising positive management, not displacing regulation.	
Categorisation of land management activities that deliver improved soil function into appropriate policy mechanisms (not exhaustive)		
Regulation	Now	<ul style="list-style-type: none"> Requirement to protect soils- minimum levels of green cover & protection from wind erosion
	In future	
ELM	Comment	ELM funding should focus on actions to improve soil organic matter and biota to maximise the public goods aspects of soil health.
	Component 1 (& SFI)	<ul style="list-style-type: none"> Organic Agroforestry (silvo-arable and silvo-pastoral systems) Meaningful IPM actions e.g. pesticide free buffer strips, provision of pollen and nectar-rich habitat Reduced tillage and fertiliser use Herbal leys, cover and inter-cropping

	Component 2	<ul style="list-style-type: none"> Creation and maintenance of complex-to-do wildlife habitat e.g. species-rich grassland (including wet grasslands/floodplains), woodland, heathland, peatland, saltmarsh, wetland
	Component 3	<ul style="list-style-type: none"> Component 3 habitat creation or rewilding projects should by their nature improve soil function.
Other policy mechanisms	Regulation (as above) Role for productivity grants/loans as mooted in the 'market failure' box above	

Better water quality

Assessment of intervention logic for better water quality		
Public goods	Water quality exhibits public good characteristics, as it is non-rival and generally non-excludable, particularly in the long-term. It is important to note, however, that poor water quality is often the result of pollution and therefore a negative externality. So, whilst a public good, it is not always appropriate to use public money to achieve water quality objectives.	
Market failure	Subject to high degree of market failure, largely as a consequence of public good characteristics. Attempts to secure at scale through market mechanisms either limited or unsuccessful, although emerging work to address this through new approaches such as Payments for Ecosystem Services.	
Scale of need	Significant need identified in England, with annual need of meeting Water Framework Directive objectives through the RDPE estimated at £460m.	
Strength of policy and legislative drivers	Agriculture Bill clause 1.1.a: <i>managing land or water in a way that protects or improves the environment</i> . Significant policy drivers associated with WFD, Farming Rules for Water and obligations for water dependent sites. Other drivers relevant to land management and agriculture associated with the Bathing Waters Directive, amongst others.	
Public-Private benefit	Some private benefit associated with investment to address water quality issues, particularly capital investment to improve resource use efficiency (e.g. investments associated with Catchment Sensitive Farming programme), in addition to benefits for water supply and shell fisheries.	
Polluter Pays Principle	Proper implementation of the polluter pays principle needed to ensure society does not bear the costs of inappropriate management. It is an offence to "cause or knowingly permit" pollution, but there are issues with enforceability and affordability of fully applying the polluter pays principle, at least at present.	
Regulation or incentive	Significant role for regulation to address water quality. Poor water quality arising from inappropriate management can cause major negative externalities for society, including damage to designated sites and higher water bills. Caution needed to ensure that public funding is targeted toward incentivising positive management, not displacing regulation. 'Public money to avoid public bads' must be avoided.	
Categorisation of land management activities that deliver better water quality into appropriate policy mechanisms (not exhaustive)		
Regulation	Now	<ul style="list-style-type: none"> WFD Nitrates & SSAFO regulations Farming Rules for Water
	In future	<ul style="list-style-type: none"> Extending environmental permitting regs to intensive beef and dairy farms and smaller pig and poultry units Extending SSAFO Regs to anaerobic digesters (V similar to recommendations for air quality)
ELM	Comment	

	Component 1 (& SFI)	<ul style="list-style-type: none"> • Organic • Agroforestry (silvo-arable and silvo-pastoral systems) • Meaningful IPM actions e.g. pesticide free buffer strips, provision of pollen and nectar-rich habitat • Reduced tillage and fertiliser use • Herbal leys, cover and inter-cropping • Maintenance of freshwater features e.g. ponds and ditches • Hedgerows, and on-farm woodlands • Appropriate management of land on floodplains
	Component 2	<ul style="list-style-type: none"> • Creation and maintenance of habitats associated with improved water quality e.g. species-rich grassland (including wet grasslands/floodplains), woodland, heathland, peatland, saltmarsh, wetland • Spatial targeting driven by RBMPs
	Component 3	<ul style="list-style-type: none"> • Component 3 habitat creation or rewilding projects should by their nature improve water quality.
Other policy mechanisms	Regulation (as above) Blended finance/private sector initiatives e.g. water companies	

Flood risk management

Assessment of intervention logic for flood risk management		
Public goods	Flood risk management exhibits public good characteristics, as it is non-rival and generally non-excludable. It is important to note however that increased flood risk may often be the result of unsustainable land management, particularly in the case of highly localised events, such as muddy floods. Whilst a public good therefore, it will not always be appropriate to use public money to achieve flood risk management objectives.	
Market failure	Subject to high degree of market failure, largely as a consequence of public good characteristics. Attempts to secure at scale through market mechanisms either limited, although emerging work to address this through new approaches to such as Payments for Ecosystem Services.	
Scale of need	Significant need associated with land management interventions to reduce flood risk, although this is poorly quantified. Interventions to address soil function and water quality particularly may have significant co-benefits for flood risk management.	
Strength of policy and legislative drivers	Agriculture Bill clause 1.1.e: <i>managing land or water in a way that prevents, reduces or protects from environmental hazards.</i> Significant policy drivers associated with the Floods Directive, and domestic legislation. Significant economic drivers, particularly associated with the built environment.	
Public-Private benefit	Limited private benefit – interventions to reduce overall flood risk may increase flood risk on specific farms, or require more water storage in the catchment.	
Polluter Pays Principle	Application of polluter pays principle for water quality and soil function should underpin public investment in land management to address flood risk.	
Regulation or incentive	Significant role for regulation to address flood risk, particularly those regulatory interventions associated with water quality and soil function. Caution needed to ensure that public funding is targeted toward incentivising positive management, e.g. creation of floodplain meadows, not displacing regulation.	
Categorisation of land management activities that deliver flood risk management into appropriate policy mechanisms (not exhaustive)		
Regulation	Now	<ul style="list-style-type: none"> • Floods Directive • WFD

		<ul style="list-style-type: none"> Farming Rules for Water etc
	In future	
ELM	Comment	
	Component 1 (& SFI)	<ul style="list-style-type: none"> Agroforestry (silvo-arable and silvo-pastoral systems) Herbal leys, cover and inter-cropping Maintenance of freshwater features e.g. ponds and ditches hedgerows,
	Component 2	<ul style="list-style-type: none"> Creation and maintenance of habitats that hold and slow the flow of water e.g. species-rich grassland (including wet grasslands/floodplains), woodland, heathland, peatland, saltmarsh, wetland – spatially targeted to benefit areas of high flood risk (guided by FRM plans) On farm flood storage
	Component 3	<ul style="list-style-type: none"> Component 3 habitat creation, rewilding or coastal realignment projects that hold or slow the flow of water Reintroduction of ecosystem engineers e.g. beavers
Other policy mechanisms	Regulation (as above) Blended finance/private sector initiatives e.g. councils, businesses, insurance companies	

Climate change mitigation

Assessment of intervention logic for climate change mitigation		
Public goods	A 'pure' public good, climate stability is both non-rival and non-excludable. Although emissions from agriculture can be categorised as a negative externality, the contribution of UK agriculture to climate change is an order of magnitude lower than its contribution to poor water quality or soil degradation.	
Market failure	Subject to high degree of market failure, largely as a consequence of public good characteristics. Attempts to secure mitigation of agricultural emissions at scale through market mechanisms limited or unsuccessful.	
Scale of need	Significant need associated with land management interventions and changes to agricultural production to mitigate emissions. Significant overlap with biodiversity conservation, given role of habitat maintenance and restoration in storing and sequestering carbon.	
Strength of policy and legislative drivers	Agriculture Bill clause 1.1.e: <i>managing land, water or livestock in a way that mitigates or adapts to climate change.</i> Strong drivers associated with United Nations Framework Convention on Climate Change (UNFCCC) and the Climate Change Act (net zero).	
Public-Private benefit	Although some private benefits associated with improved resource use efficiency, in general terms, public benefits of climate action are an order of magnitude greater.	
Polluter Pays Principle	Climate change is driven by pollution, and implementation of the PPP will therefore be important in mitigating these emissions.	
Regulation or incentive	Significant role for regulation, e.g. to require protection of habitats that store significant amounts of carbon and better soil management. Caution needed to ensure that public funding is targeted toward incentivising positive management, not displacing regulation.	
Categorisation of land management activities that deliver climate change mitigation into appropriate policy mechanisms (not exhaustive)		
Regulation	Now	<ul style="list-style-type: none"> Rules around peat cultivation IEEP report suggests gap in regulation around climate mitigation

		<ul style="list-style-type: none"> • Are there current regs we should highlight
	In future	<ul style="list-style-type: none"> • Ideally fill gaps identified in IEEP report • Burning peat ban
ELM	Comment	-
	Component 1 (& SFI)	<ul style="list-style-type: none"> • Organic • Agroforestry (silvo-arable and silvo-pastoral systems) • Reduced tillage and fertiliser use • Herbal leys, cover and inter-cropping • Hedgerows, trees in hedgerows, individual trees including veteran and ancient trees
	Component 2	<ul style="list-style-type: none"> • Creation and maintenance of carbon-rich habitats e.g. species-rich grassland (including wet grasslands/floodplains), woodland (including ancient), heathland, peatland, saltmarsh, wetland
	Component 3	<ul style="list-style-type: none"> • Component 3 habitat creation or rewilding or coastal realignment projects that sequester significant amounts of carbon
Other policy mechanisms	Grants via Nature for Climate Fund etc.	

Climate change adaptation

Assessment of intervention logic for climate change adaptation		
Public goods	A 'pure' public good, climate stability is both non-rival and non-excludable. Adaptation for species and habitats also a public good on the same basis. Adaptation for agriculture and forestry productivity exhibit both public and private good characteristics.	
Market failure	Adaptation for the natural environment subject to high degree of market failure, largely as a consequence of public good characteristics. Attempts to secure at scale through market mechanisms either limited or unsuccessful. Some scope for markets to drive adaptation for agricultural production.	
Scale of need	Significant when associated with scale of need more generally for biodiversity, flood risk management, landscape and historic environment and other associated objectives where adaptation is relevant. As consequence, should be significant scope for synergy with these objectives.	
Strength of policy and legislative drivers	Agriculture Bill clause 1.1.e: <i>managing land, water or livestock in a way that mitigates or adapts to climate change.</i> Strong drivers associated with United Nations Framework Convention on Climate Change (UNFCCC) and the Climate Change Act (net zero).	
Public-Private benefit	Limited private benefits associated with adaptation for the natural environment, but potentially significant private benefits associated with adapting farm and other businesses.	
Polluter Pays Principle	Generally not applied to adaptation, although may be scope to apply if pollution arises in the future from maladaptation, or a failure to adapt.	
Regulation or incentive	Requirement of adaptation to achieve successful biodiversity and landscape/historic environment conservation makes strong case for incentive.	
Categorisation of land management activities that deliver climate change adaptation into appropriate policy mechanisms (not exhaustive)		
Regulation	Now	
	In future	
ELM	Comment	Climate adaptation requires creation of a landscape permeable to biodiversity, and improved natural flood management, so many actions that support adaptation are similar to those two outcomes.
	Component 1	<ul style="list-style-type: none"> • Organic

	(& SFI)	<ul style="list-style-type: none"> • Agroforestry (silvo-arable and silvo-pastoral systems) • Meaningful IPM actions e.g. pesticide free buffer strips, provision of pollen and nectar-rich habitat • Reduced tillage and fertiliser use • Herbal leys, cover and inter-cropping • Creation and maintenance of simple-to-do wildlife habitat e.g. flower-rich margins, ponds (with additional incentives to provide a diversity of appropriate habitats across the holding) • Creation of simple/single-holding habitat corridors e.g. B-Lines for pollinators, ditches • Something around hedgerows, trees in hedgerows, individual trees including veteran trees and ancient trees •
	Component 2	<ul style="list-style-type: none"> • Creation and maintenance of carbon-rich habitats e.g. species-rich grassland (including wet grasslands/floodplains), woodland (including ancient), heathland, peatland, saltmarsh, wetland • Additional incentives for collaboration around habitat creation including habitat corridors •
	Component 3	<ul style="list-style-type: none"> • Component 3 habitat creation, rewilding or coastal realignment projects that improve permeability of landscape for biodiversity and reduce risk of flood and fire
Other policy mechanisms	Grants via Nature for Climate Fund etc., Biodiversity Net Gain etc.	

Improved air quality

Assessment of intervention logic for improved air quality		
Public goods	Air quality exhibits public good characteristics, as it is non-rival and non-excludable. It is important to note however that poor air quality is often the result of pollution and therefore a negative externality. So, whilst a public good, it will not always be appropriate to use public money to achieve air quality objectives.	
Market failure	Subject to high degree of market failure, largely as a consequence of public good characteristics. Attempts to secure at scale through market mechanisms either limited or unsuccessful.	
Scale of need	Significant for both human health and biodiversity. For example, ammonia has significant local effects on designated sites, and deposition of atmospheric nitrogen has a significant impact on site condition and species diversity in the wider countryside.	
Strength of policy and legislative drivers	Agriculture Bill clause 1.1.a: <i>managing land or water in a way that protects or improves the environment.</i> Significant policy drivers associated with Air Quality Directive, Clean Air Strategy, as well as climate change and biodiversity legislation, amongst others.	
Public-Private benefit	Significant public benefits associated with improvements in air quality, but improvements in resource use efficiency will give rise to major private benefits.	
Polluter Pays Principle	Application of the PPP needed to internalise costs of air pollution to individual businesses through regulation.	
Regulation or incentive	Significant role for regulation to play in addressing air quality, at local and national level. 'Public money to avoid public bads' must be avoided.	
Categorisation of land management activities that deliver improved air quality into appropriate policy mechanisms (not exhaustive)		
Regulation	Now	<ul style="list-style-type: none"> • Nitrates and SSAFO regulations

		<ul style="list-style-type: none"> • Environmental Permitting Regs
	In future	<ul style="list-style-type: none"> • Extending environmental permitting regs to intensive beef and dairy farms and smaller pig and poultry units • Extending SSAFO Regs to anaerobic digesters • (V similar to recommendations for water quality)
ELM	Comment	-
	Component 1 (& SFI)	<ul style="list-style-type: none"> • Organic • Agroforestry (silvo-arable and silvo-pastoral systems) • Meaningful IPM actions e.g. pesticide free buffer strips, provision of pollen and nectar-rich habitat • Reduced tillage and fertiliser use • Hedgerows, trees in hedgerows, shrubs and individual trees including veteran trees
	Component 2	<ul style="list-style-type: none"> • Creation and maintenance of carbon-rich habitats e.g. species-rich grassland (including wet grasslands/floodplains), woodland (including ancient), heathland, peatland, saltmarsh, wetland
	Component 3	<ul style="list-style-type: none"> • Component 3 habitat creation or rewilding or coastal realignment projects that sequester significant amounts of carbon
Other policy mechanisms	Clean Air Strategy policies	

Recreational access, engagement and education

Assessment of intervention logic for recreational access, engagement and education		
Public goods	Legal rights of way, affirmed in the Countryside and Rights of Way Act establish access as a relatively 'pure' public good, given strong non-rival and non-excludable characteristics. The public good characteristics of engagement and education are less clear cut.	
Market failure	Access is subject to high degree of market failure, largely as a consequence of public good characteristics. Limited market for access in some instances where legal rights to access do not exist (e.g. on water). Some potential for markets to develop around engagement and educational visits.	
Scale of need	Limited scale of need associated with public investment. Focus on capital investment and establishing new rights of way on land and water.	
Strength of policy and legislative drivers	Agriculture Bill clause 1.1.b: <i>supporting public access to and enjoyment of the countryside, farmland or woodland and better understanding of the environment.</i> Key policy drivers are 25 Year Plan and public health and wellbeing objectives.	
Public-Private benefit	Strong public benefits associated with recreational access. Some private benefits associated with access underpinning tourism and other recreational activities, although these are co-benefits arising from legislation, not investment.	
Polluter Pays Principle	NA.	
Regulation or incentive	Significant role for regulation to address outcome on basis of legal duty to maintain rights of way and open access arrangements where relevant. No role for public expenditure in maintaining these rights. Role for public expenditure in delivering improved and new access above the regulatory baseline, plus engagement and educational opportunities.	
Categorisation of land management activities that deliver recreational access, engagement and education into appropriate policy mechanisms (not exhaustive)		
Regulation	Now	<ul style="list-style-type: none"> • CRoW
	In future	<ul style="list-style-type: none"> • Access to waterways

ELM	Comment	In line with the holistic approach outlined in the intro to this section, public access enhancement, engagement and education should be integrated into packages/standards/offers for all component s rather than treated as a 'bolt-on'.
	Component 1 (& SFI)	<ul style="list-style-type: none"> • improved path surfaces • waymarking • improved access infrastructure (gates instead of stiles) to the least restrictive option (as per British Standard 5709) • maintenance of waterways for navigation • provision for permissive access routes to water • provision of educational signage • educational visits and green prescribing offers, including training and appropriate accreditation • [Measures to improve air, water quality etc. will also indirectly benefit those accessing countryside]
	Component 2	<ul style="list-style-type: none"> • Create links between existing routes / circular walks, including at the urban/rural fringe • Offer safer alternatives to busy country roads • Provide links to otherwise inaccessible open access land and the England Coast Path • Facilitate access to water for launching and landing and providing waterside facilities such as parking
	Component 3	<ul style="list-style-type: none"> • Component 3 habitat creation or rewilding projects should consider from the outset how the public's access to newly created wild places will be secured and maintained, and provisions should be made for education and learning
Other policy mechanisms		

Agrobiodiversity

Assessment of intervention logic for agrobiodiversity	
Public goods	The genetic diversity found in our native livestock, equines, crops and plants, and the ecosystem services they provide; food and fibre, environmental and landscape enhancement and cultural benefits.
Market failure	Food and fibre can be provided through the market, but are generally undercut by more commercial breeds produced in industrial systems. There is no market for the other ecosystem services provided.
Scale of need	The JNCC has stated that the UK is failing to meet its obligations to conserve agrobiodiversity under the Convention on Biodiversity and the Sustainable Development Goals.
Strength of policy and legislative drivers	Agriculture Bill clause 1.1.g: <i>conserving native livestock, native equines or genetic resources relating to any such animal</i> ; and 1.1.i: <i>conserving plants grown or used in carrying on an agricultural, horticultural or forestry activity, their wild relatives or genetic resources relating to any such plant</i> . Unsure of other policy drivers.
Public-Private benefit	Significant public benefit in maintenance of genetic diversity, climate adaptation and ability of native breeds to deliver conservation objectives. Some private benefit relating to diversification and marketability of produce.
Polluter Pays Principle	NA
Regulation or incentive	Limited role for regulation

Categorisation of land management activities that deliver agrobiodiversity into appropriate policy mechanisms (not exhaustive)		
Regulation	Now	•
	In future	•
ELM	Comment	-
	Component 1 (& SFI)	<ul style="list-style-type: none"> rearing rare and native livestock and plant breed seed and gene banking to conserve native and rare breed genetics
	Component 2	•
	Component 3	•
Other policy mechanisms		

Improved animal welfare

Assessment of intervention logic for improved animal welfare		
Public goods	Identified as a public good primarily based on socio-political rationales.	
Market failure	Degree of market failure variable, with some sectors consistently deriving a market return for high welfare standards, whereas in other sectors market return/differentiation is low.	
Scale of need	Research by RSPCA ¹⁹ and the Farm Animal Welfare Forum ²⁰ estimates that an upfront capital investment of £280 million and an ongoing spend of £750 million is required to secure higher welfare standards in line with Defra's Animal Health and Welfare Pathway.	
Strength of policy and legislative drivers	Agriculture Bill clause 1.1.f: <i>protecting or improving the health or welfare of livestock</i> . Key policy drivers stem from Animal Welfare Act.	
Public-Private benefit	Significant public benefits associated with high welfare standards on basis of consumer/citizen demand and ethics. Private benefits associated with access to new and higher value markets.	
Polluter Pays Principle	Limited relevance, although key to ensure any steps taken to improve welfare standards do not increase negative externalities from agriculture, including pollution and environmental degradation more broadly.	
Regulation or incentive	Significant role for regulation to address outcome on basis of requiring improvements in farm animal welfare, and internalising associated costs to individual businesses (model used to date to secure welfare improvements in England).	
Categorisation of land management activities that deliver improved animal welfare into appropriate policy mechanisms (not exhaustive)		
Regulation	Now	
	In future	<ul style="list-style-type: none"> Live export Potential new regs relating to sentience bill (Or maybe better to avoid as unclear at present what impact sentience will have on regulation)
ELM	Comment	The purpose of ELM is to deliver environmental public goods (including public access). However, some elements of ELM will have concurrent benefits for animal welfare which should be considered.

¹⁹ https://www.rspca.org.uk/webContent/staticImages/Campaigns/IntoTheFold_HelpForFarmersReport.pdf

²⁰ <http://www.fawf.org.uk/sites/default/files/2020-02/FAWF%20Proposals%20for%20public%20funding%20Summary%20v1.0.pdf>

	Component 1 (& SFI)	<ul style="list-style-type: none"> • Agroforestry - silvo-pastoral •
	Component 2	<ul style="list-style-type: none"> • Wood pasture & parkland •
	Component 3	<ul style="list-style-type: none"> • Scrub, wood pasture, woodland
Other policy mechanisms	Animal Health and Welfare Pathway – capital costs & grants	

Improved productivity

Assessment of intervention logic for improved productivity		
Public goods	Not a public good. Clear private benefits to improving productivity.	
Market failure	Some market failure in terms of access to credit for certain sectors and types of tenure. In general, however, market returns are available in relatively short time frames following investment in productivity.	
Scale of need	Potentially significant given issues with productivity of UK agriculture, although poorly quantified regarding need associated with public investment.	
Strength of policy and legislative drivers	Agriculture Bill clause 1.2.a: <i>starting, or improving the productivity of, an agricultural, horticultural or forestry activity.</i> Limited legislative drivers, but strong manifesto commitments associated with the agricultural sector.	
Public-Private benefit	Legitimate public interest in a productive agricultural sector, although significant private benefits associated with improved productivity.	
Polluter Pays Principle	Limited relevance, although key to ensure any steps taken to improve productivity do not increase negative externalities from agriculture, including pollution and environmental degradation more broadly.	
Regulation or incentive	Limited role for direct regulation to achieve productivity, although general importance of maintaining a level playing field and consistent implementation to ensure business certainty.	
Categorisation of land management activities that deliver improved productivity into appropriate policy mechanisms (not exhaustive)		
Regulation	Now	
	In future	
ELM	Comment	The purpose of ELM is to deliver environmental public goods (including public access). However, some elements of ELM will have concurrent benefits for productivity which should be considered.
	Component 1 (& SFI)	<ul style="list-style-type: none"> • Agroforestry • Pollinator habitat • Resource use efficiency associated with IPM and reduced inputs •
	Component 2	<ul style="list-style-type: none"> • •
	Component 3	<ul style="list-style-type: none"> •

Other policy mechanisms	Productivity schemes
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