



Rural Payments Agency inquiry

A response from the British Ecological Society to the House of Commons Environment Food and Rural Affairs Committee

23 March 2018

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Founded in 1913, we are the world's oldest ecological society, with over 6,400 members worldwide. As the voice of the UK's ecological community, we communicate the value of ecological knowledge to policymakers and promote evidence-informed solutions.

Introduction and Summary

1. In line with the expertise of our membership, this response will focus on issues that relate to the effective delivery of future Agri-Environment schemes (AES) by the Rural Payments Agency (hereafter referred to as the RPA).
2. Over 64 per cent of land in the UK is used for agricultural activities. Agri-environment schemes (AES) such as England's Countryside Stewardship Scheme, are a central component of the EU's Common Agricultural Policy (CAP) and provide financial incentives for the provision of environmental services. Despite some of the progress made as a result of these schemes, many farmland species are still undergoing declines.^{1 2 3}
3. If the Government is committed to the ambitions in the 25 year plan to improve the environment⁴, the RPA will be tasked with delivering on strategic agri-environmental policies through the implementation of effective and well-monitored schemes.
4. The UK now has an opportunity to design agri-environmental policies that can be shaped to the ecological needs of the targeted area. Such policies could be underpinned by adopting and adapting the extensive EU legislation and principles related to protecting the environment, as the EU has been the primary source of environmental legislation for the UK for the past forty years.
5. To improve AES, the RPA will need the resources to build on state-of-the art modelling approaches, already used in some Rural Development Programmes, to enable public money to be targeted towards the most appropriate place and where benefits will be most cost-effectively delivered.⁵ It should establish an effective administrative system for monitoring and delivery.

6. RPA should be enabled to deliver incentives for cross-boundary collaboration for the provision of ecosystem services at catchment and/or wider spatial scales and supplement public payments with private payments for ecosystem services in locations where there are relevant beneficiaries. We recommend the RPA spatially target payments to locations where ecosystem services can most efficiently be provided.
7. And finally, through improved Defra agri-environment policies, the RPA delivery of AES should foster greater cooperation and collaboration between stakeholders to help deliver greater benefits for biodiversity and ecological services. More advice and access to advice for all land managers is essential in improving the delivery of AES and ensuring lead to a more sustainably managed landscape.

Reforms to agri-environment schemes (AES)

Monitoring

8. Implementation of AES needs to be complimented by a large-scale, high-quality, scientifically robust monitoring system.^{6 7} The monitoring should be carried out and reviewed regularly, to inform independent, evidence-led decision making. The current monitoring systems tend to be vague and do not measure the full impacts of AES, making it difficult to repeat or improve practices.⁸ Improved monitoring could help identify if the problem is with the AES design, implementation, if it is context specific or if it is unsuitable for use in all regions and landscapes. Therefore, the relevant Government body should be resourced and committed to a country-wide monitoring programme.

Targeting

9. Targeting options to areas where they are most appropriate and needed can improve the impact of the scheme. Assessing the benefits will enable payments to be linked directly to actions and will make the economic case to both the farmers and public. Cost-benefit exercises⁹ can then be undertaken to establish the most effective management options whilst not compromising land profitability.
10. Successful spatial targeting can increase the population of priority species through habitat creation. For example, case studies have shown that spatial targeting has successfully increased the population size of micro moths (Lepidoptera) through the creation of grassland habitat on arable field margins¹⁰ and increased the nest density of wild bumblebees thanks to an increase in suitable forage¹¹.
11. The evidence base for effective spatial targeting should be significantly expanded to improve the quality of AES delivery. This evidence could come from land use modelling, using random sampling within land classes to validate model outputs.
12. The BES recommends the production of a set of targeting guidelines that could be applied to known ecological traits of species.

Communication

13. Communication plays a key role in delivering AES. AES are a vehicle which can be used to improve a range of habitats across England. A resurvey of 118 grasslands under Higher Level Stewardship (HLS) was conducted to look at the effectiveness of maintaining and restoring species-rich grasslands under HLS.¹² The resurvey provides an example of why more data, planning, monitoring and communication are needed. The sites which failed to meet their objectives or experienced neutral or negative change were identified as having been undermanaged. Yet the data on why these sites were undermanaged is described as “patchy”. Poor communication between those conducting the assessment and the landowners was seen as the main contributing factor to the data deficiency.

Indicators

14. The delivery of AES would benefit from the creation of biodiversity indicators which cover a broader range of landscapes and wildlife to more effectively monitor different regions in the UK. Such indicators could form a complementary set of indicators for assessing ecosystem service outcomes and natural capital assets.

Advisory Services, Training and knowledge exchange

15. A more comprehensive advisory service would be beneficial because the effectiveness of AES is highly variable, and depends on the level of engagement, experience and skill of the farmer.¹³ The RPA could make all agri-environment payments contingent on taking good quality advice from appropriately qualified professionals. The cost of this could be covered as part of the payments. Ideally, this would involve a publicly funded extension service, with a set of accredited qualified advisors. Advice on the range of issues which farmers and land managers must address, and ensuring better targeting of schemes, is essential for better results for the environment.^{14 15 16 17}
16. The environmental effectiveness of agri-environment management has been shown to improve (in terms of actual biodiversity outcomes) when farmers and landowners received training, compared to farmers and landowners who did not receive training.^{18 19} Training could look at specific ideas for environmental improvements with repeatable, measurable outcomes.
17. Ongoing contact between a certified, professional advisor and the landowner from the start of the scheme will improve the likelihood of success. An advisor can ensure that the indicators of success are on track and being met but also identify the causes of any negative changes that may occur at a site.

Payments

18. Phasing out direct payments could disproportionately affect the economic viability of farming in certain sectors (e.g. mixed farming) and “less favoured areas” (such as hill farms), where the financial viability of agricultural enterprises is more dependent on such support. There are a number of uncertainties for the natural environment if such changes were to lead to a significant reduction or withdrawal of active land management. For

example, in blanket bog habitats currently managed for sheep and game, it is not known how protected plant and animal communities would respond to the withdrawal of active management in a changing climate.²⁰

19. Current agri-environment schemes pay farmers for undertaking certain measures. A future sustainable land management policy should retain mechanisms for land managers to receive payments in return for delivering environmental benefits but should also go further to include the surrounding landscape and ecosystem services across regions.^{21 22} An example of a type of landscape scale cooperation is farmer clusters, a programme designed by the Game & Wildlife Conservation Trust and funded by Natural England, where groups of farmers work together to develop a shared vision to collectively achieve conservation targets which benefit wildlife, soil and water.²³ Another example, the Selborne Landscape Partnership, founded in 2014, has successfully designed a plan to link key habitats and target rare species. They have been able to work together to ensure wildlife such as the harvest mouse have enough habitat to thrive.²⁴
20. Land managers could be given a menu of environmental benefits to choose from, with the menu differing between areas, depending on the public preferences,^{25 26} and which benefits can most cost-effectively be provided in any given location.
21. Place-based schemes have the potential to integrate payments for multiple services and habitats to provide payments at higher levels over longer periods than are currently available for similar work under the EU funding.²⁷ Broad, overarching schemes could increase wildlife protection, encourage collaboration, and reduce habitat fragmentation.
22. Existing process-based models combined with high-resolution remote sensing imagery can identify locations where there are opportunities to provide key benefits in the most cost-effective way.^{28 29} In this way, spending is prioritized (by increasing scheme points available) to the locations that can most easily provide the benefits that society wants, and land managers in those locations are paid for the work they do on a stable, long-term basis.³⁰ It is important to note that there would be both winners and losers if those managing certain areas are paid more or less; based on the different levels of benefits they are able to provide society.
23. Public money for public goodsⁱ does appear to be a cost-effective way of delivering value for money for taxpayers. The RPA could deliver a scheme of public accountability, setting out the benefits that are being delivered. Data from monitoring could be consolidated into a searchable database and made publicly available.
24. An alternative option, which could be combined with the model in paragraph 21, is to supplement public funding for the provision of environmental benefits with private funding

ⁱ There are varying definitions of what a public good is. In this submission, we use this term with reference to the first pages of Chapter 5 from the consultation paper called Health and Harmony: the future for food, farming and the environment in a Green Brexit (2018).

via Payments for Ecosystem Services schemes, such as through the Woodland Carbon Code and the Peatland Code for example.

25. 3keel developed an initiative called Landscape Enterprise Networks (LENs) which is described as; “a new regionally focused approach, which harnesses commercial interest in how landscapes function to drive investment and innovation around strategic assets like soils, aquifers, access infrastructure, habitats and tree cover.”³¹ They were highlighted in the 25 year plan to improve the environment as an example of above approach. They integrate funding from private beneficiaries to deliver benefits for the environment, farmers and businesses. The LENs approach is currently being used and researched in a number of projects, including the Global Food Security programme’s Resilient Dairy Landscapes project.³²

Landscape scale

26. Connecting schemes on a larger spatial scale, within which priority species are targeted, has the potential to maximise environmental benefits, ensure the land meets multiple objectives and manage any potential trade-offs. Most important ecological processes and ecosystem services, for example pollination, water retention and filtration, nutrient cycling, seed dispersal, natural pest control etc. operate at a scale much larger than single farms. However, the current AES are all related to individual farms and will therefore inevitably be limited in their scope. It is well established that the effect of conservation or restoration measures applied to an area are highly dependent upon the surrounding land use and management.³³
27. In addition to being more ecologically effective, managing AES at a larger scale (for example clusters of farms within a catchment area), would also be much easier to monitor. It could help prioritise which features are most lacking or needed in the landscape and contribute to deciding which approaches are chosen for individual farms.
28. Improved consistency across different schemes would be welcome. Payments for restoration/creation in previous schemes have not always been carried forward into future schemes. An example is the planting of traditional orchards under Higher Level Stewardship (HLS) where under the Countryside Stewardship (CS) scheme these are not eligible for payment. The result is an incentive under the CS scheme to remove the traditional orchards planted under HLS from the land as opposed to maintaining them.

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- ¹ Uitto, J.I. (2016). Evaluating the environment as a global public good. *Evaluation.*, 22(1): 108–115.
- ² Carvalheiro, L.G., Kunin, W.E., Keil, P., Aguirre-Gutiérrez, J., Ellis, W.N., Fox, R., Groom, Q., Hennekens, S., Van Landuyt, W., Maes, D., Van de Meutter, F., Michez, D., Rasmont, P., Ode, B., Potts, S.G., Reemer, M., Roberts, S.P.M., Schaminée, J., Wallis DeVries, M.F., Biesmeijer, J.C. (2013). Species richness declines and biotic homogenisation have slowed down for NW-European pollinators and plants. *Ecology Letters*, 16: 870-878.
- ³ Robinson, R. A., Sutherland, W. J. (2002). Post-war changes in arable farming and biodiversity in Great Britain. *Journal of Applied Ecology*, 39(1): 157–176.
- ⁴ GOV. (2018). 25 Year Environment Plan. Policy Paper. <<https://www.gov.uk/government/publications/25-year-environment-plan>>
- ⁵ Reed, M. S., Allen, K., Dougill, A. J., Evans, K., Stead, S. M., Stringer, L. C., Twyman, C., Dunn, H., Smith, C., Rowcroft, P., Smith, S., Atlee, A. C., Scott, A. S., Smyth, M, A., Kenter, J., Whittingham, M. J. (2017). A Place-Based Approach to Payments for Ecosystem Services. *Global Environmental Change*, 43: 92-106.
- ⁶ Batáry, P., Dicks, L.V., Kleijn, D., Sutherland, W.J. (2015). The role of agri-environment schemes in conservation and environmental management. *Conservation Biology*, 29(4): 1006-1016.
- ⁷ Reed, M. S., Moxey, A., Prager, K., Hanley, N., Skates, J., Bonn, A., Evans, C. D., Glenk, K., Thomson, K. (2017). Improving the link between payments and the provision of ecosystem services in agri-environment schemes. *Ecosystem Services*, 9: 44-53.
- ⁸ Tzivilakis, J., Warner, D.J., Green, A., Lewis, K.A., Angileri, V. (2016). An indicator framework to help maximise potential benefits for ecosystem services and biodiversity from ecological focus areas. *Ecological Indicators*, 69: 859-872.
- ⁹ Collins, A. L., Zhang, Y. S., Winter, M., Inman, A., Jones, J. I., Johnes, P. J., Cleasby, W., Vrain, E., Lovett, A., Noble, L. (2016). Tackling agricultural diffuse pollution: What might uptake of farmer-preferred measures deliver for emissions to water and air? *Science of the Total Environment*, 547: 269-281.
- ¹⁰ Alison, J., Duffield, S. J., van Noordwijk, C. G. E., Morecroft, M. D., Marrs, R. H., Saccheri, I. J., Hodgson, J. A. (2016). Spatial targeting of habitat creation has the potential to improve agri-environment scheme outcomes for macro-moths. *Journal of Applied Ecology*, 53 (6): 1814 – 1822.
- ¹¹ Wood, T. J., Holland, J. M., Hughes, W. O. H., Goulson, D. (2015). Targeted agri-environment schemes significantly improve the population size of common farmland bumblebee species. *Molecular Ecology*, 24 (8): 1668 – 1680.
- ¹² Wheeler, B. R., Wilson, P. J. (2016). The effectiveness of Higher Level Stewardship for maintaining and restoring species-rich grasslands: a resurvey of a sample of grasslands under HLS options HK6 and HK7. Report to Natural England.
- ¹³ McCracken, M.E., Woodcock, B.A., Lobley, M., Pywell, R.F., Saratsi, E., Swetnam, R.D., Mortimer, S.R., Harris, S.J., Winter, M., Hinsley, S., Bullock, J.M. (2015) Social and ecological drivers of success in agri-environment schemes: the roles of farmers and environmental context. *Journal of Applied Ecology*, 52: 696-705.
- ¹⁴ Lastra-Bravo, X. B., Hubbard, C., Garrod, G., Tolon-Becerra, A. (2015). What drives farmers' participation in EU agri-environmental schemes? Results from a qualitative meta-analysis. *Environment Science & Policy*, 54: 1–9.
- ¹⁵ McCracken, M.E., Woodcock, B.A., Lobley, M., Pywell, R.F., Saratsi, E., Swetnam, R.D., Mortimer, S.R., Harris, S.J., Winter, M., Hinsley, S., Bullock, J.M. (2015). Social and ecological drivers of success in agri-environment schemes: the roles of farmers and environmental context. *Journal of Applied Ecology*, 52(3): 696-705.
- ¹⁶ Emery, S. B., Franks, J. R. (2012). The potential for collaborative agri-environment schemes in England: Can a well-designed collaborative approach address farmers' concerns with current schemes? *Journal of Rural Studies*, 28(3): 218-231.
- ¹⁷ Hejnowicz, A.P., Rudd, M. A., White, P. C. L. (2016). A survey exploring private farm advisor perspectives of agri-environment schemes: The case of England's Environmental Stewardship programme. *Land Use Policy*, 55: 240-256.
- ¹⁸ E.E. Guillem, A. Barnes, (2013). Farmer perceptions of bird conservation and farming management at a catchment level. *Land Use Policy*, 31: 565– 575.
- ¹⁹ <http://www.conservationevidence.com/actions/113>
- ²⁰ Reed, M. S., Hubacek, K., Bonn, A., Burt, T. P., Holden, J., Stringer, L. C., Beharry-Borg, N., Buckmaster, S., Chapman, D., Chapman, P., Clay, G. D., Cornell, S., Dougill, A. J., Evely, A., Fraser, E. D. G., Jin, N., Irvine, B., Kirkby, M., Kunin, W., Prell, C., Quinn, C. H., Snee, W., Stagl, S., Termansen, M., Thorp, S.,

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- Worrall, F. (2013). Anticipating and managing future trade-offs and complementarities between ecosystem services. *Ecology & Society*, 18(1): 5.
- ²¹ Anthony, S., Jones, I., Naden, P., Newell-Price, P., Jones, D., Taylor, R. et al. (2012) Contribution of the Welsh Agri-Environment Schemes to the Maintenance and Improvement of Soil and Water Quality, and to the Mitigation of Climate Change. Agri-Environment Monitoring and Technical Services Contract Lot 3: Soil, Water and Climate Change (Ecosystems). Welsh Government, Cardiff, UK.
- ²² Westerink, J., Jongeneel, R., Polman, N., Prager, K., Franks, J., Dupraz, P., Mettepenningen, E. (2017). Collaborative governance arrangements to deliver spatially coordinated agri-environmental management. *Land Use Policy*, 69: 176-192.
- ²³ Warrener, S. (2017). Farmer Clusters- working together to achieve more. Natural England.
<<https://naturalengland.blog.gov.uk/2017/03/21/farmer-clusters-working-together-to-achieve-more/>>
- ²⁴ Game & Wildlife Conservation. (2018). Case study: The Selborne Landscape Partnership. Farming.
<<https://www.gwct.org.uk/farming/advice/farmer-clusters/case-study-the-selborne-landscape-partnership/>>
- ²⁵ Christie, M., Rayment, M., (2012). An economic assessment of the ecosystem service benefits derived from the SSSI biodiversity conservation policy in England and Wales. *Ecosystem Services*, 1(1): 70–84.
- ²⁶ Christie, M., Hyde, T., Cooper, R., Fazey, I., Dennis, P., Warren, C.S., Hanley, N., 2011. Economic valuation of the Benefits of Ecosystem Services delivered by the UK Biodiversity Action Plan. Defra, London.
- ²⁷ Reed, M. S., Allen, K., Dougill, A. J., Evans, K., Stead, S. M., Stringer, L. C., Twyman, C., Dunn, H., Smith, C., Rowcroft, P., Smith, S., Atlee, A. C., Scott, A. S., Smyth, M, A., Kenter, J., Whittingham, M. J. (2017) A Place-Based Approach to Payments for Ecosystem Services. *Global Environmental Change*, 43: 92-106.
- ²⁸ Emmett, B. E., and the GMEP team. (2017). Glastir Monitoring & Evaluation Programme. Final Report to Welsh Government - Executive Summary (Contract reference: C147/2010/11). NERC/Centre for Ecology & Hydrology (CEH Projects: NEC04780/NEC05371/NEC05782).
- ²⁹ Reed, M.S., Moxey, A., Prager, K., Hanley, N., Skates, J., Evans, C., Glenk, K., Scarpa, R., Thompson, K. (2014). Improving the link between payments and the provision of ecosystem services in agri-environment schemes in UK peatlands. *Ecosystem Services*, 9: 44-53.
- ³⁰ Reed, M. S., Allen, K., Dougill, A. J., Evans, K., Stead, S. M., Stringer, L. C., Twyman, C., Dunn, H., Smith, C., Rowcroft, P., Smith, S., Atlee, A. C., Scott, A. S., Smyth, M, A., Kenter, J., Whittingham, M. J. (2017) A Place-Based Approach to Payments for Ecosystem Services. *Global Environmental Change*, 43: 92-106.
- ³¹ 3Keel. (2018). Landscape Innovation. <<http://www.3keel.com/landscape-innovation/>>
- ³² Resilient Dairy Landscapes (Accessed 2018) <<https://www.resilientdairylandscapes.com>>
- ³³ NERC. (2016). Living With Environmental Change: Spatial targeting brings new opportunities for agri-environment schemes. Policy and Practice Notes, Note 28.