Natural Capital Solutions

Morris Resource Economics Ltd

PENDLE HILL LANDSCAPE PARTNERSHIP

How environmental policy changes could affect upland farms: 'Pen Hill' case study

ABOUT THIS BRIEF

This summary outlines the implications for upland farmers in Pendle Hill, Lancashire, of a change in agricultural and environmental policy that will replace direct income support with payments for land-based environmental services.

BACKGROUND

Upland farming practices have been shaped in recent decades by the intensification of agriculture. These practices have had negative impacts on the biodiversity of upland farms, and their ability to provide other ecosystem services and environmental benefits – such as carbon sequestration, air/water quality regulation, flood alleviation, pollination, and recreation.

Following the decision by the UK Government to withdraw from the European Union and the Common Agricultural Policy, direct income support to farmers (known as the Basic Payment Scheme (BPS)) will be replaced with a range of measures including a new Environmental Land Management (ELM) scheme. ELM aims to incentivise and reward land managers for safeguarding natural assets such as land, water, air, and biodiversity, in order to secure a range of ecosystem services that benefit people.

APPROACH

Set in the context of Pendle Hill, the study examined the public benefits that upland hill farms could provide under the proposed ELMs, and whether the financial rewards for implementing ELM options could make up for the loss of direct income support under the BPS.

The study used natural capital and ecosystem assessment methods on three farms in the Pendle Hill area. Farm business appraisals were also conducted. From the assessment of these farms, a generic representative case study, 'Pen Farm', was produced based on a Less Favoured Area Grazing Livestock Farm of 146 hectares that specialises in upland sheep and beef production.

RESULTS

A map-based register of natural assets classified Pen Farm into major habitat types and associated land use. These comprised of improved grassland in lower lying areas, small areas of woodland, and semi-natural grassland with moorland on the higher elevations. An assessment of selected baseline ecosystem services showed relatively high generation of provisioning services in terms of livestock production, but relatively low capacity under existing land use to provide regulating services. There was moderate generation of some cultural services associated with enjoyment of the countryside, including health and well-being benefits.

Opportunities for generating public goods on Pen Farm were identified by aligning environmental options and associated changes in farming practices with the six main themes of ELM:

1) Beauty, heritage, and engagement
2) Clean air
3) Mitigation of and adaption to climate change
4) Clean and plentiful water
5) Protection from and mitigation of environmental hazards
6) Thriving plants and wildlife

The ELM options included creating new woodland, introducing wood pasture, promoting more diverse grassland management to improve biodiversity, using buffer strips and shelterbelts to protect and improve water quality and reduce run off from fields, and enhancing public access.

Financial viability

The financial viability of Pen Farm was shown to be dependent on an annual net income from BPS of about £23,000. Adoption of ELM options could help to produce an extra net income (after costs) of about £18,000 per year. This would leave a net income gap of about £5,000 per year after BPS withdrawal. The new ELM options, however, would require a reduction in livestock stock numbers of about 22% that, after savings in costs, would further increase the BPS income gap to about £6,700 per year. There is scope to close this remaining gap by additional income from wood products, ecotourism, and further improvements to farm activity efficiency.

CONCLUSION

The Pen Farm case study indicates that it is possible to close the income gap left by BPS by adopting significant changes in land management and farming practices. These changes are, however, conditional on the design of appropriate environmental options and rewards to farmers, as well as technical assistance and advice to support this transition. Such funding and support services could be provided by a mix of public and private agencies.

Looking forward, it would be beneficial to fine-tune the natural capital approach so that it is more aligned with field scale conditions and practices such as stocking densities, and fertilizer and agrochemical application. This would allow a more realistic farm-scale ecosystem service baseline to be set, so that the efficacy of ELMs options to increase these benefits can be more accurately assessed.

Maps (from left to right) showing water quality, water flow and accessible nature.

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