

Post-Brexit, positive changes in the way the Government supports farming, by '**paying public money for public goods**', are likely to have a big impact on the way the countryside is managed. Farmers in England will be encouraged to put more emphasis on managing the land for public goods, and in some cases, less on food production. This study on Pendle Hill in Lancashire explores how this change might affect the farming business and landscape of one holding: 'Pen Farm', as we attempt to find out 'What's a Hill Worth?'

For more than 75 years successive British governments have supported the farming industry in order to keep food prices at a low level, using a mixture of production subsidies, market protection and direct income support. At the time that the UK ceased to be a member of the European Union (Brexit) in 2021, farmers were able to claim payments on the area of land they farmed, provided they followed rules to avoid environmental damage, under the terms of the Basic Payment Scheme (BPS) administered under the Common Agricultural Policy (CAP).

The withdrawal of BPS and the introduction of new environmental land management schemes means that farmers and other land managers may be paid to deliver the following types of public goods:

- Clean air
- Clean and plentiful water
- Thriving plants and wildlife
- Protection from environmental hazards
- Beauty, heritage and engagement with the environment
- Reduction of and adaptation to climate change

Pen Farm - business and accounts

The farm currently receives **income** from two previously CAP-funded schemes: the Basic Payment Scheme (BPS) and a 'Countryside Stewardship' agreement that pays for the management of hedgerows, woodlands and traditional farm buildings; plus the conservation management of some fields to support biodiversity. Agriculture generates nearly £70,000 income a year.

The main costs of managing the 113 hectares of Pen Farm (nearly £80,000 a year) are mainly associated with sheep and cattle production, growing and cutting silage, machinery costs, and purchasing some bought in feed and fertiliser. Most labour is provided by the family. It is important to note that **the cost of farming currently outweighs the income it generates** on Pen Farm.

Total Annual Farm Business Income is therefore around £21,000: a very typical figure for hill farms in this area.

ANNUAL FARM BUSINESS INCOME



Item	Income £	Expenditure/costs £	Net £
Basic Payment Scheme	27400	4100	23300
Countryside Stewardship	7500	1600	5900
Diversification	3300	2000	1300
Agriculture	69500	79000	-9500
Total			£21,000

NB - 2020 values.

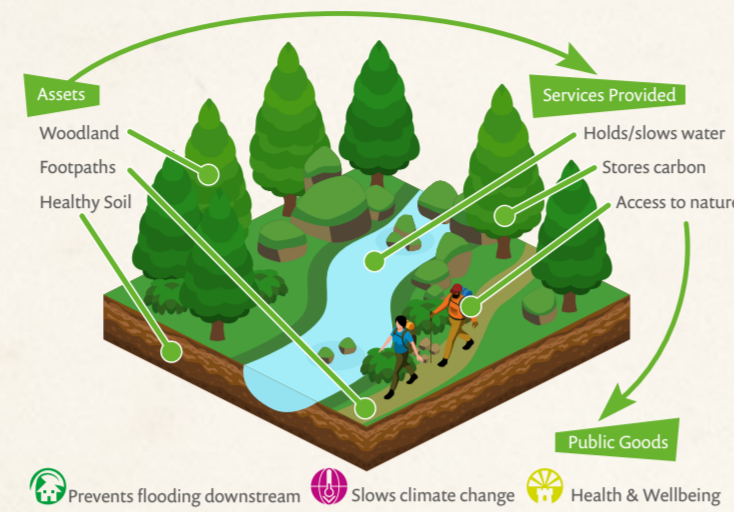
Over the next six years both the Basic Payment Scheme and Countryside Stewardship will be phased out by Government: leaving a large income gap at Pen Farm. Under current proposals, in future years the farm will be able to apply for new environmental land management payments for the provision of **public goods**.

What are 'public goods'?

Natural assets occurring in the landscape include the soils, water, rocks, plants and wildlife; plus any historic sites and traditional features such as paths, hedgerows and dry stone walls.

These assets provide ecosystem services which then deliver the 'public goods' which are of benefit to people and the environment.

Changes in the way the land is managed for the environment can help to maintain and even increase the amount and quality of the assets that exist, and of the services and public goods flowing from them.



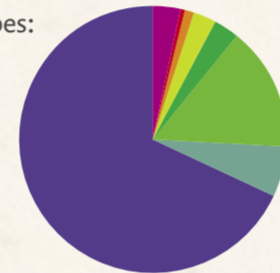
What public goods can an upland hill farm provide?

Pen Farm is an imaginary farm, created as a result of research and analysis of three real-life farms on Pendle Hill, in Lancashire.

The drawing below shows the farm as it is now:

Currently Pen Farm is made up of the following land cover types:

- 68% Improved Grassland
- 3% Bracken
- 6% Semi Improved Grassland
- 1% Woodland
- 15% Rough Grazing
- 0.5% Water
- 3% Rushy Grassland
- 3.5% Other



The key public goods that Pen Farm currently provides are:

(See full report for how these public goods were identified, quantified and prioritised. NB a valuation of the full range of public goods was not attempted.)

In total Pen Farm is currently a net emitter of **350 tonnes CO₂/year** (this is split evenly between land based emissions and farming activity).

Other natural assets that the farm has include:

All set in an Area of Outstanding Natural Beauty on the slopes of Pendle Hill



What 'public goods' can be provided by an upland hill farm under new environmental land management? And will this 'plug the income gap' left by the withdrawal of current support?

PEN FARM CASE STUDY

WHAT'S A HILL WORTH? RESEARCH SUMMARY OF THE PEN FARM LANDSCAPE PARTNERSHIP

Conclusions

Our assessment concludes that the adoption of environmental land management on upland farms can deliver multiple public benefits associated with the main themes of the proposed new scheme. This will, however, require very significant changes in land management and farming practices that will place more emphasis in the future on environmental outcomes rather than on livestock production. Upland farms would probably need to increase the income from environmental agreements from their present level by about 3 times to compensate for the loss of the Basic Payment.

Acknowledgements

This document summarises the report by Natural Capital Solutions and Morris Resource Economics:
Holt, A.R. and Morris, J. (2020) Plugging the income gap: Assessing environmental options for upland farmers: A case study in Pendle Hill, Lancashire. Commissioned by Pendle Hill Landscape Partnership.



Link to full report:
pendlehillproject.com/project/whats-hill-worth

Proposals for new environmental land management at Pen Farm

Now that the owners of Pen Farm know what public goods their land currently provides they can begin to work out how to maximise these goods. They can do this by changing the way they manage the land to improve the condition of the natural assets and therefore increase the amount and value of the public goods they provide, and will be rewarded for.

As a result of the proposed new management approaches adopted, over time Pen Farm will come to look like this:

New woodland and wood pasture created from improved and semi-improved grassland

Riparian buffer zones, woody dams and off-line ponds introduced along watercourses

Impacts of the changes in land management on public goods and farm income

- The area of intensively managed grassland will reduce by 56ha, to account for just 30% of total farm area
- The area of broadleaved woodland increases by 11ha, and there is also 33ha of new wood pasture, plus more scrub habitat for wildlife
- Semi natural and semi improved grassland area increases by 15ha

The Farm will have to reduce current livestock numbers by about 22% as there is less land available for grazing, and it is stocked at a lower density. However, although agricultural income will fall, around £5300 of running costs a year can be saved by reducing needs and costs for feed, fertiliser and vet services.



In total Pen Farm will become carbon zero, sequestering 24.5 tonnes of CO2 per year.

As the details of the new schemes are yet to be determined it is not possible to calculate the exact payments the provision of public goods in this scenario might generate towards the farm income.

At Pen Farm, as in most upland areas, the main public goods are linked to water and carbon, and the benefits linked to 'beauty, heritage and engagement'. Therefore:

- Trees, hedgerows and grasslands will store and capture more carbon from the atmosphere
- Carbon emissions from agriculture and the moorland soils will fall
- The value of improving water quality and reducing water flow will increase; especially if this is carried out in collaboration with neighbouring farms.
- Air quality will increase
- Timber production will increase and some income from timber and wood-fuel will be generated in the mid to longer term
- Opportunities for education, training, recreation and tourism; and for aesthetic, spiritual and cultural experiences will all increase under the new management

