High Nature Value Farmland: Getting Results from Farming for Biodiversity

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If asked to name the most scenic places in Ireland, where would you mention? Connemara, the Burren, the Wicklow Mountains, the Leitrim Hills, the Shannon Callows, or somewhere else along the west coast? The list is endless. While visually stunning to locals and tourists alike, these areas bear another similarity as they are dominated by High Nature Value (HNV) farmland.

The term HNV farmland came into common usage in the late 1980s and early 1990s to refer to areas of Europe dominated by semi-natural habitats[1] and maintained by low-intensity farming (i.e. low or no fertiliser input and low stock numbers). On average, farms in Ireland have around 15% semi-natural habitat which typically consists of hedgerows, patches of woodland, scrub, or a pond or marshy area that is not used for grazing or saving fodder.[2] Many farms dramatically exceed this 15% average and these are HNV farms. On these farms, semi-natural habitats are essential parts of the grazing and hay or silage systems and make up a significant portion of the farmed land. These HNV farmland habitats, which are not only used for the production of food but are also important in terms of supporting biodiversity, usually fall

[1] Semi-natural habitats have never been reseeded or chemically fertilised but they are grazed or cut on a regular basis.

[2] Sheridan, H., McMahon, B.J., Carnus, T., Finn, J.a., Anderson, A., Helden, A.J., Kinsella, A., Purvis, G., 2011. Pastoral farmland habitat diversity in south-east Ireland. *Agriculture, Ecosystems & Environment* 144, 130-135.

into two discrete categories; peatland or semi-natural grassland habitats.[3] These fields are essential resources of wildflowers which feed pollinators and other invertebrates such as butterflies, which then, in turn, feed our birdlife. These habitats support high plant and animal (butterflies, bees, mice, shrews, birds) biodiversity throughout the Irish countryside, existing within landscapes as a mosaic of hedgerows, drainage ditches, treelines, stonewalls, small patches of woodland and scrub and larger areas of peatlands (heaths and bogs).

When areas of high-nature value farmland are well-managed, they deliver much more than farmland biodiversity; they also deliver important ecosystem services such as clean water, good quality soils, flood and fire resilience, and contribute to vibrant rural communities.[4] Intact peatlands that occur in upland areas are particularly important both in terms of flood protection for downstream areas and carbon storage;[5] a high-water table is a major characteristic of these habitats and they ensure a low risk of fire, providing additional protection for this stored carbon.[6] HNV farmland has the potential to provide important ecosystem services but, without specific policies to protect them, they are under risk of being lost through intensification, conversion to forestry, and abandonment.[7]

EU policies to protect HNV farmland

The benefits provided by HNV farmland have been recognised at a state-level since the early 2000s. Member states of the European Union agreed, in 2003, to identify HNV farmland areas

[3] Sullivan, C.A., Bourke, D., Skeffington, M.S., Finn, J.A., Green, S., Kelly, S., Gormally, M.J., 2011. Modelling semi-natural habitat area on lowland farms in western Ireland. *Biological Conservation* 144, 1089-1099.

[4] Moran, J. and Sullivan, C. 2017. Co-benefits for Water and Biodiversity from the Sustainable Management of High Nature Value Farmland. https://www.epa.ie/pubs/reports/research/biodiversity/EPA%20RR%20209_webEssentra.pdf

[5] Irish Peatlands Conservation Council, Blanket Bogs factsheet. http://www.ipcc.ie/a-to-z-peatlands/blanket-bogs/

[6] Page, S. and Baird, A., 2016. Peatlands and Global Change: Response and Resilience. *Annual Review of Environment and Resources.* 41:35-57 https://www.annualreviews.org/doi/full/10.1146/annurev-environ-110615-085520

[7] Non-Technical Summary County Leitrim, Shannon Callows, Ireland and Navarra, Spain, 2018. https://rbapseu.files.wordpress.com/2019/01/rbaps_es01_non_technical-summary.pdf

and support their economic and ecological viability.[8] This was followed by the Member States Rural Development Plans for 2007-2013 mentioning the protection of HNV farmland as a strategic guideline.[9] Stronger support was promised with the inclusion of HNV in the 2013-2020 Common Agricultural Policy (CAP) – the European Union's agricultural subsidy system to ensure food security - and in the European Union's Rural Development Policy post-2013, where one of the three primary objectives was the sustainable management of natural resources and climate action. Achieving this objective was to be pursued through six broader European Union priorities, including "restoring, preserving and enhancing ecosystems related to agriculture," focusing on biodiversity (including Natura 2000[10] and HNV farming) and the state of European landscapes.[11] In reality, despite this public recognition of HNV farmland within strategic frameworks, little meaningful action was taken to prioritise their preservation.[12]

Unfortunately, implementation of Common Agricultural Policy by member states can result in perverse outcomes for marginal farmland. This is seen in Ireland every year when large swathes of upland areas are illegally burnt[13], often in an effort to keep land 'eligible' for Pillar 1 payments[14]. Additionally, the Common Agricultural Policy rewards farmers primarily for the delivery of food through the Single Farm Payment in Pillar 1. Since HNV farmlands are low-

[8] Tematea, 2008. Kyiv Resolution on Biodiversity. http://biodiversite.wallonie.be/servlet/Repository/?IDR=6024

[9] CEC, 2006. COUNCIL DECISION of 20 February 2006 on Community strategic guidelines for rural development (programming period 2007 to 2013). Official Journal of the European Union, Brussels https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32006D0144&from=EN

[10] Natura 2000 is a network of core breeding and resting sites for rare and threatened species, and some rare natural habitat types which are protected in their own right. https://ec.europa.eu/environment/nature/natura2000/index_en.htm

[11] Publications Office of European Union, 2018. Farming for Natura 2000 https://ec.europa.eu/environment/nature/natura2000/management/docs/FARMING%20FOR%20NATURA%202000-final%20guidance.pdf

[12] Navarro, A., and López-Bao, J.V. 2019. EU agricultural policy still not green. *Nature Sustainability* **2,** 990. https://www.nature.com/articles/s41893-019-0424-x

[13] https://www.rte.ie/news/leinster/2020/0417/1132014-gorse-fires-wicklow/

[14] Pillar 1 payments are direct, income support, payments to farmers https://www.europarl.europa.eu/factsheets/en/sheet/109/first-pillar-of-the-common-agricultural-policy-cap-ii-direct-payments-to-farmers

intensity farms, this puts them at a significant financial disadvantage, encouraging intensification (reclamation of land through drainage or ploughing and reseeding) or abandonment.[15]

With Pillar 1 payment focused solely on food delivery, other payments are delivered through Pillar 2 of the Common Agricultural Policy which aims to support environment deliverables. Through the creation of Areas of Natural Constraint (ANC) and agri-environment scheme payments, HNV farmland support has been incorporated into broader policy goals. In Ireland, at present, environment deliverables are primarily delivered through the Green Low-Carbon Agri-Environment Scheme (GLAS),[16] which has evolved over the years from the Rural Environment Protection Scheme (REPS) and the Agri-Environment Options Scheme (AEOS).[17] These schemes are known as action-based schemes; a farmer selects a number of actions from a menu and receives payment once these actions are complete. While, in theory, this sounds beneficial for the environment, a number of design issues arose. Firstly, these actions are not targeted to the places that would most benefit from such actions (though GLAS did have some targeted elements). Secondly, and most concerning, there is no monitoring carried out to verify that there is a positive environmental benefit.[18] These schemes receive huge amounts of funding every year (€1.08bn, excl training payments, over its lifetime[19]) but evidence of effectiveness is scant.[20] This payment structure highlights the food

[15] O'Rourke, E., Kramm, N., 2012. High nature value (HNV) farming and the management of upland diversity. A review. European Countryside 4, 116-133.

[16] Department of Agriculture, Food and the Marine. Green, Low-Carbon, Agri-Environment Scheme - GLAS https://www.agriculture.gov.ie/farmerschemespayments/glas/

[17] Teagasc. Biodiversity and Countryside Schemes. https://www.teagasc.ie/environment/biodiversity--countryside/schemes/

[18] ADAS (2018) Baseline Analysis of Actions Under GLAS: Full Report, Department of Agriculture, Food and the Marine.

[19] GLAS is one of the Department of Agriculture, Food and the Marine's (DAFM) largest programmes of voted expenditure with spending of €232 million in 2018, comprising around 15% of the DAFM's total gross voted expenditure for 2018. see Cathal McDermott, *Spending Review 2019 The Green, Low-carbon Agrienvironment Scheme* (Department Of Public Expenditure And Reform Igees Unit, 2019) https://assets.gov.ie/25646/197ea0c01c5840a0b2255bd8d446cea8.pdf

[20] CEC, 2006. COUNCIL DECISION of 20 February 2006 on Community strategic guidelines for rural development (programming period 2007 to 2013). Official Journal of the European Union, Brussels

production focus of CAP, where environmental protection goals are often mooted with every new round, but up to 2020 at least, ultimately massively diluted [21].

Shifting the focus to results

Recently, another type of agri-environment initiative, known as a results-based programme, has been developed, principally but not exclusively, for supporting HNV farmland. Simply put, they are results-based programmes which pay a farmer based on the delivery of an agreed outcome. It doesn't follow rigid rules; the higher the ecological quality of the result produced, the higher the financial reward for the farmer.[22] The desired result is clearly explained, and the farmer can decide the management required to achieve it, in consultation with trained advisors and programme staff. These programmes centre on the farmer, granting them autonomy and increasing their personal investment. They are also locally-adapted, meaning the programme is designed around the farms that would deliver most for the target. The importance of this planned approach cannot be overstated.

The Burren Programme, based in Co. Clare, is the longest running results-based agri-environment programme.[23] Developed in conjunction with a small number of farmers in the early 2000s through initial EU LIFE funding, the programme was rolled-out as a mainstream agri-environment scheme in 2010 within the Rural Development Programme. Attracting almost 400 participants, the Burren Programme is an excellent example of farmers producing, and being rewarded for, high quality ecosystem services, specifically species-rich grassland. Following the successful rollout, a number of pilots have progressed the concept of results-based agri-environment programmes beyond the Burren.

The Results-based Agri-environmental Payment Scheme (RBAPS) Project is one such progression, running from 2015-2018 across three regions and two countries.[24] The team

[21] https://greennews.ie/cap-reform-scientists-call/

[22] Summary: What are results-based payments for biodiversity and when and where should they be used? 2018. https://rbapseu.files.wordpress.com/2019/01/rbaps_es02_what-are-results-payments.pdf

[23] http://burrenprogramme.com/

[24] https://rbaps.eu/

working on this project developed scorecards for assessing habitat quality and also incorporated species-specific requirements, where necessary. For example, they developed a wet grasslands scorecard with the Marsh Fritillary, a rare butterfly, in mind. Fields were scored using questions on the scorecards and received a score between 10 and 0. A higher score ensures a higher payment will be paid, while a low score e.g. 0-3, will usually result in no payment.[25] Even though the RBAPS Project was carried out on a small number of farms in Co. Leitrim and Co. Offaly (and Navarra in Spain), it successfully showed that the results-based approach would work for other habitats, and indeed species, outside of this unique area in Co. Clare where it was initially developed.[26]

Monitoring the success of initial pilots supporting high nature value farmland, the Department of Agriculture, Food and the Marine (DAFM) incorporated principles of results-based programmes into their European Innovation Partnerships (EIPs)[27] designed to address priorities of the 2014-2020 Rural Development Programme, including the restoration, preservation and enhancement of ecosystems. Launched in 2012, EIPs are partnerships which aim to better co-ordinate different levels of existing financial instruments and initiatives to address specific challenges and focus on societal benefits in a number of key areas including Agriculture Sustainability and Productivity (EIP-AGRI).[28] While most other EU member states focused this mechanism on productivity and small-scale projects, DAFM were unusual in utilising EIPs for ecosystem scale projects. In Ireland, a budget of €59 million was set aside for 23 EIP projects which are developed by Operational Groups which bring together farmers, researchers, advisors, and agri-business to identify innovative solutions to particular

[25] A score between zero to three would result from no positive action towards protection of the natural environment in recent times, with the payable score of four relatively simple to achieve. There is support available for farmers to change practices to achieve higher scores. The scorecard provides a clear indication of where the problem is (e.g. field got -30 due to burning). There is also a fund called the 'supporting actions fund' that farmers can draw on. Actions are 25-100% funded depending on how beneficial they are for biodiversity.

[26] https://rbaps.eu/

[27] https://ec.europa.eu/eip/agriculture/en/about

[28] https://ec.europa.eu/eip/agriculture/en/eip-agri-concept

challenges facing the agri-food sector and rural economy.[29] Several of these projects aim to improve ecosystems in different regions with location specific approaches and targets. The EIPs have been running since 2017 with some only receiving funding in 2019.

Opportunities of Results-Based Agri-environment Payment Schemes

With funding of €25 million, the Hen Harrier Project is the largest of these EIP programmes. The Project follows the RBAPS model and aims to deliver high quality farmland habitats required by the Hen Harrier, a bird of prey, in an effort to stem its continuing decline. The Hen Harrier Project runs the Hen Harrier Programme targeting farmers with land in six Special Protection Areas (SPAs) for breeding Hen Harrier across nine counties from Co. Monaghan to Co. Cork.[30] It uses scorecards to assess peatland and semi-natural grassland habitats on HNV farms in the designated areas. Over 1500 farmers are in the programme in Ireland today and Hen Harrier numbers are being monitored along with farmland habitat quality. While initial results are promising[31], these programmes need to be running for a number of years before trends can be accurately quantified. The Pearl Mussel Project[32] is another EIP with a similar approach (scorecards assessing dominant habitats) but with a different conservation target; the Freshwater Pearl Mussel. The programme covers eight river catchments, across five counties from Co. Donegal to Co. Cork, aiming to restore rivers to good quality which would allow them to support the Freshwater Pearl Mussel.

Because there are different targets, there are different incentives within the programme (local-adaptations) such as a Hen Harrier Payment in the Hen Harrier Progamme and a whole farm bonus payment in the Pearl Mussel Project. These are designed to financially reward those who deliver the most. Between these two EIPs, the Burren Programme, and a number of

29 https://www.agriculture.gov.ie/media/migration/farmingschemesandpayments/europeaninnovationpartnership/EIP-AGRI%20Operational%20Group%20Booklet%202019%20proof%202.pdf

30 http://www.henharrierproject.ie/

31 Seán Mac an tSíthigh, *Hen Harrier breeding soars with help of farmers* (RTE, 2020) https://www.rte.ie/news/ireland/2020/0521/1139806-hen-harrier/

32 https://www.pearlmusselproject.ie/freshwater-pearl-mussel.html

smaller EIPs with a results-based focus (e.g. Caomhnú Arann and Inishowen EIP[33]), there are now approximately 2500 primarily HNV farmers in results-based agri-environment programmes in Ireland. This represents significant growth since 2015, when 160 farmers were involved in the Burren. [34]

While the concept of results-based agri-environment payment schemes have existed since the early 2000s, widespread adoption did not immediately follow. Barriers exist to the wider roll-out of a results-based agri-environment programme. Firstly, the Burren's unique nature meant there were questions over whether a similar type of programme could work elsewhere. Inevitably, concerns surfaced about how costly such programmes can be in operation. While the Burren is indeed unique, the framework, detailed by the RBAPS Project, that undergirds the the Burren project is very adaptable, not just within Ireland but within Europe. Paying for the delivery of a result is clearly a concept that can be applied not just to farmland biodiversity but many other farmland ecosystem services and other farmland systems. Indeed, the Pearl Mussel and Hen Harrier Projects deliver on water quality, flood resilience, carbon storage, and more.[35] The Hen Harrier Project in particular has been instrumental in showing that a results-based approach can be scaled up effectively. The scale of the Hen Harrier Programme has allowed significant upskilling for agricultural advisors and investment in technological solutions to facilitate high participant numbers. With more participants and a bigger budget, the administration costs could fall to the equivalent to the action-based only programme approaches but with a key distinction that ecological systems are being preserved and enhanced.

Looking Forward

The next iteration of the European Union's Common Agricultural Policy aims to be more ambitious on environmental and climate actions with mandatory requirements on preserving

[33] https://www.inishoweneip.com/
[34] http://burrenprogramme.com/the-programme/
[35] https://www.pearlmusselproject.ie/farm-programme/results-based-approach.html; also see http://www.henharrierproject.ie/farming.html

carbon-rich soils with specific mention of peatlands.[36] Current plans reveal increased flexibility and simplicity with less emphasis on rules and more emphasis on results. The success of these results-based projects highlights a timely opportunity for the next Common Agricultural Policy if it is to fulfil its ambitions on biodiversity. It's an opportune time to make results-based agri-environment programmes, with HNV farmland as an ideal target for this type of approach, more widely available in Ireland and indeed throughout Europe. Targets can also be adapted for other areas outside of HNV farmland areas[37] or non-farmed areas.

It is hoped that DAFM will take the positive results from their EIP investment and expand the results-based agri-environment programmes in the next CAP round, 2021-2028. These programmes would provide support to some of the most economically challenged parts of the country ensuring a vibrant rural community is retained. Communities and their local environment are both enhanced when farmers are supported to manage agricultural land, in particular HNV farmland, in a way that is harmonious with our ecosystems. Biodiversity is to be valued, not only for what services it provides us but for its own sake. To turn this possibility into reality we need strong policies that support action for biodiversity and the environment.

[36] https://ec.europa.eu/info/food-farming-fisheries/key-policies/common-agricultural-policy/future-cap_en

[37] The BRIDE Project is one such example. It aims to design and implement a results-based project to enhance habitats and biodiversity in lowland intensive farmland. This project has a landscape scale approach to environmental management that is also community based.. For more see: https://www.thebrideproject.ie/.