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CAP reform post-2013: an opportunity to support High Nature Value farming systems in Scotland?

Davy McCracken¹

Key points

- A recently published report from the Scottish Government highlighted that 2,284,000 ha (equivalent to 40%) of Scotland’s Utilised Agricultural Area (UAA) was estimated to be under High Nature Value (HNV) farming systems in 2009.
- The proportion of Scotland’s agricultural land under HNV farming systems has declined from 44% in 2007 and 43% in 2008. The decline between 2007 and 2009 is likely to be associated with the retreat of farming from Scotland’s hills which has been highlighted in recent years.
- There is a need to consider not only what types of HNV farming-specific support mechanisms are required in Scotland but also what policy framework will ensure that such support can be developed and implemented effectively.
- No specific mention of HNV farming systems has been made in the European Commission’s legal proposals for the CAP after 2013 which were presented in October 2011². It is, however, highly likely that the extent, distribution and condition of HNV farming systems, together with the amount of CAP Rural Development Programme (RDP) support being directed to these systems, will remain as a means by which the European Commission will evaluate the RDPs of Member States.
- The CAP proposals indicate that there will be the potential to use some of the Pillar 1 budget for coupled actions and to target additional funding to areas with natural constraints.
- The proposals therefore appear to provide potential opportunities to direct some additional funding to HNV farming systems. However, if HNV farming systems are not highlighted as a priority in the text of the reformed CAP, what will encourage Member States to take the opportunity to use these funding mechanisms in that way?
- Developing effective support mechanisms for HNV farming systems in Scotland, and elsewhere in Europe, therefore must be a major consideration in the CAP reform negotiations taking place over the coming months and years.

¹ Dr Davy McCracken is a Reader in Agricultural Ecology and Team Leader of the Resource Economics and Biodiversity Team at SAC. He is an Associate of the Rural Policy Centre. T: 01292 525299; E: davy.mccracken@sac.ac.uk; W: http://www.sac.ac.uk/ruralpolicycentre/aboutus/rpcassociates/davymccracken/.

Introduction

In May 2009, a Knowledge Scotland research briefing by this author highlighted that there was a requirement (set by the European Commission for all EU Member States) to establish a baseline of the extent of High Nature Value (HNV) farming systems occurring in Scotland (McCracken 2009). There was also a requirement to develop mechanisms to track trends in that HNV farming system resource within the life-span of the 2007-2013 Scotland Rural Development Programme (SRDP). Although not a focus of that briefing, it was also clear that there was a requirement to establish a similar baseline and track trends in Scotland’s HNV forestry system resource.

To achieve this, the Scottish Government established a small HNV Farming and Forestry Indicators Technical Working Group, comprising Scottish Government analysts, scientists and policy advisor together with input from SAC (this author), Forestry Commission Scotland, RSPB Scotland and Scottish Natural Heritage (SNH). The remit of the group was “To assess the feasibility of producing HNV indicators for Scotland by exploring data availability and associated methodological issues”.

The primary objective of the Group was to identify baseline indicators for HNV farming and forestry systems that would be amenable to tracking change over time. The delineation of specific areas as HNV was not an objective, since it was recognised that farm management systems in particular can be dynamic and hence the characteristics of individual farms within any one area have the potential to change markedly from one year to another.

When the findings of the Group were published in September 2011 (Scottish Government 2011), Scotland became the first country in the United Kingdom to publish an assessment of the extent and broad distribution of HNV farming and forestry systems. The report highlighted that in 2009, 2,284,000 ha (equivalent to 40%) of Scotland's Utilised Agricultural Area (UAA) was estimated to be under HNV farming systems, while in 2010, 529,000 ha (equivalent to 41%) of the woodland area of Scotland was under HNV forestry systems.

The approach taken to assess HNV farming systems

Scottish farming systems were initially characterised by farm type (McCracken 2011). Existing farm typologies were used as the starting point for the characterisation rather than reinventing new classifications. The major broad farming systems that occur in Scotland (and which formed the focus of estimating the likely extent and broad distribution of HNV farming) were listed in order of likelihood of being HNV (based on the characteristics of the majority of farms practising each system).

A number of systems occurring in Scotland (i.e. arable systems, dairy systems, mixed arable & horticulture systems, horticulture systems, pig systems, poultry systems) are very specialised and the vast majority are managed very intensively. Some semi-natural landscape features (such as hedges, ponds, wetlands and small uncultivated patches) can still occur around such intensively managed farmland that otherwise is of limited nature value, and such features are certainly important for conserving vestiges of biodiversity. However, the presence of these features does not qualify such farming systems to be classified as HNV farming systems. Rather they simply indicate that such productive farming systems can (depending on the landscape context in which they sit) contain some features of HNV interest (Luksch and Schuh 2010). Hence the majority of farms practising such systems in Scotland cannot be considered to be of HNV, since there is no strong positive link between the farming system characteristics and the biodiversity value on the farm.
The other farming systems occurring in Scotland (i.e. crofting\(^3\), sheep systems, beef cattle systems, combined sheep & cattle systems, mixed livestock and arable systems) have a higher possibility of being HNV, but this is very dependent on the range of habitats occurring at a farm holding level (especially those utilised as forage and fodder resources) and the intensity at which these are managed. Datasets of detailed farm-level ecological and farm management characteristics do not exist, but there is the potential to use some farm-level agricultural structure variables as surrogates as to what may be happening on the ground (in terms of the type of habitats, and hence associated farmland biodiversity, present and the intensity at which these are being managed). The approach taken therefore focussed on characterising the livestock-dominated farming systems occurring in Scotland’s islands, hills and uplands. However, although crofting was highlighted as being an important HNV system in Scotland, it does not feature in existing farm typologies. Hence crofting was not treated as a specific separate farm type in the analyses.

HNV farming systems in Scotland are particularly associated with livestock grazing systems where a high proportion of the on-farm forage and fodder resource comes from semi-natural habitats such as species-rich machair grassland\(^4\), moorland and heathland. HNV livestock-dominated farming systems in Scotland were taken to be those where rough grazing (used as a surrogate for semi-natural vegetation occurrence) makes up more than 70% of the UAA and where livestock units per available forage ha (as a surrogate of farming intensity) are less than 0.5 LU/ha. Any farm holdings with no livestock present at all were not included in the HNV calculation.

These thresholds were set based on previous work (see references in McCracken 2011) and on the basis that if more than 70% of the UAA on a farm consists of rough grazing, then that puts a constraint on the ability of the farmer to try to increase profitability by increasing the intensity of management on the remaining, more agriculturally productive, in-bye ground. Obviously it is still feasible for individual farmers to try to increase profitability in those situations by increasing livestock numbers, hence the reason for including a stocking density threshold.

It was not possible to obtain information on livestock densities on common grazing areas in Scotland (areas of grazing land used by a number of crofters and others who hold shares in that land). The author did, however, get agreement from the Working Group to include the common grazing areas in the calculation of the baseline, since the exclusion of common grazings would substantially underestimate the area under HNV farming systems at national and some regional levels.

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\(^3\) Crofting is the name given to a farming system which occurs in the Highlands and Islands of north-west of Scotland which consists of small-scale farms (croft) growing crops and rearing livestock and often involving the use of moorland grazings which are managed and used in common by a number of individual crofts.

\(^4\) Machair is a Gaelic word meaning an extensive low-lying fertile plain but specifically the long ranges of sandy plains fringing the Atlantic side of the Outer Hebrides. It is a coastal feature, which only occurs under certain climatic, physical and landform conditions. Sand is blown inland onto a low-lying plain. Machair grasslands largely owe their fertility to the high seashell content of the sand - sometimes as high as 90%. For more information, see: [http://www.efncp.org/hnv-showcases/scottish-hebrides/machair/facts/](http://www.efncp.org/hnv-showcases/scottish-hebrides/machair/facts/).
The extent and distribution of Scottish HNV farming systems

This approach allowed Scottish Government statisticians to estimate that 44% of Scotland’s agricultural land was under HNV farming systems in 2007, 43% in 2008 and 40% in 2009. The decline between 2007 and 2009 is likely to be associated with the retreat of farming from Scotland’s hills which has been highlighted in previous reports (e.g. SAC 2009; Holland et al. 2011; Thomson In Press).

The eleven Regional Proposal Assessment Committee (RPAC) regions (which have been established for the assessment of agri-environment proposals) were used to consider the broad extent and distribution of HNV farming systems across Scotland. Figure 1 shows the percentage of the Utilised Agricultural Area (UAA) estimated to be under HNV farming systems in 2009 within each RPAC.

The estimated proportion of UAA under HNV farming systems varied from as little as 15% and 22% in the Grampian and Moray and Ayrshire RPACs, respectively, to as much as 64% and 75% in the Argyll and the Western Isles RPACs, respectively. Nationally, the Highland RPAC was estimated to hold the greatest amount (40%) of the area under HNV farming systems, with Argyll (12%), Tayside (10%) and the Western Isles (10%) also holding a significant proportion of the national HNV farming system resource.

Table 1: HNV farming and forestry system baseline indicators developed for the 2007-2013 Scotland Rural Development Programme

<table>
<thead>
<tr>
<th>Headline Indicators</th>
<th>Value</th>
<th>Reference Year</th>
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<tbody>
<tr>
<td>% of UAA(^1) estimated as HNV farming</td>
<td>40%</td>
<td>2009</td>
</tr>
<tr>
<td>Total area estimated as HNV farming (ha)</td>
<td>2,284,000</td>
<td>2009</td>
</tr>
<tr>
<td>% of woodland that is HNV forestry</td>
<td>41%</td>
<td>2010</td>
</tr>
<tr>
<td>Total area of HNV forestry (ha)(^2,3)</td>
<td>529,000</td>
<td>2010</td>
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</tbody>
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<tr>
<th>Supporting Indicators</th>
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<tr>
<td>HNV Farming:</td>
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<tr>
<td>Total UAA (ha) (including common grazings)</td>
</tr>
<tr>
<td>Total number of holdings</td>
</tr>
<tr>
<td>% change in UAA (ha) on previous year</td>
</tr>
<tr>
<td>% change in estimated HNV on previous year</td>
</tr>
<tr>
<td>% of UAA which is Common Grazing</td>
</tr>
</tbody>
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| HNV Forestry: |
| Total forest (ha) | 1,296,000 | 2010 |
| % HNV Forestry which is Type A\(^4\) | 52% | 2010 |
| % HNV Forestry which is Type B\(^5\) | 48% | 2010 |

1. Utilised Agricultural Area (including common grazings)
2. HNV Forestry excludes Northern Isles area
3. HNV Forestry - Grampian and Moray - likely to be an underestimate
4. HNV Forestry Type A - semi-natural woodland features and low intensity managed woodland
5. HNV Forestry Type B - diversity of features and low intensity managed woodland

Table 1 shows the complete basket of HNV Farming and Forestry system baseline indicators which have been developed for the 2007-2013 SRDP (Scottish Government 2011). It can be seen that although the total amount of UAA in Scotland declined by 3% between 2008 and 2009, the total amount of UAA estimated to be under HNV farming systems declined by 9%. These figures suggest that the decline in the estimated amount of agricultural land under HNV farming systems is likely to be a combination of land being taken out of agricultural use altogether and changes to the system characteristics on some of the remaining holdings.

In support of this, other work by SAC (McCracken et al. 2011) has highlighted that the Scottish sheep flock fell by 12.2% between 2004 and 2009, and although this decline varied across Scotland many parishes have seen a marked fall in the number of sheep farmers (e.g. a drop of 24% for Torosay in the south of Mull). Overall there has been a large reduction in holdings with sheep in a band across Scotland from the Western Isles (-12%), through Skye and Lochalsh (-12%), Lochaber (-11.5%) Perth and Kinross (-14%) and into Stirling (-11.5%). In addition, the remaining sheep production appears to be becoming even more extensive, with many parishes seeing average flock sizes fall by over 25% since 2004. Hence, the overall decline in Scottish sheep numbers has been driven by both farmers
and crofters withdrawing from sheep production altogether and by others reducing the size of their flocks.

Comparison with mapping of HNV nature conservation characteristics

The estimates generated by the HNV farming system approach were compared with those generated by SNH whereby the location of habitats and species known to be associated with HNV farmland were mapped (Mackey and Blake 2011). Although unsuited to tracking trends annually (because the datasets utilised are only updated every c. 10 years), this mapping exercise was useful in helping the Scottish Government understand better the relationships between HNV farming systems and wildlife habitats, and in helping validate the HNV farming systems approach.

The mapping exercise indicated that the overall total occurrence of HNV-associated habitats occurring within each of Scotland’s RPACs was larger than the estimated extent of UAA under HNV farming systems in those RPACs. This is, however, to be expected given that the mapping exercise identified the potential overall total occurrence of HNV-associated habitats, irrespective of whether they are a major component of individual holdings or not. The HNV farming system approach indicated that in many cases such habitats only make up a small proportion of any one holding and/or occur at low levels across non-livestock dominated farming systems.

Hence a proportion of the total amount of HNV-associated habitats identified by SNH is not a significant component of the underlying farming system on which it occurs. In addition, the data obtained from the HNV farming system approach also suggested that in many cases a proportion of the HNV-associated habitats identified by SNH as occurring within Scotland’s UAA are either not grazed at all or stocked at livestock densities higher than the thresholds characteristic of HNV farming systems.

These comparisons helped emphasise the rationale behind the development of the HNV farming system approach, i.e. that simply knowing the location of habitats associated with HNV farming systems is by itself generally insufficient to indicate the actual occurrence of HNV farming systems.

Simply knowing that HNV farming systems in Scotland are declining is not enough

None of the agricultural statistics datasets used in the HNV farming system approach have been designed specifically with the intent of providing an indication of the extent and distribution of HNV farming systems. Nevertheless, the relatively simple approaches taken (which are robust, transparent and repeatable) have shown that it is feasible to obtain estimates of HNV farming system occurrence (at both a broad Scotland and regional level) on an annual basis by utilising agricultural statistics. An important advantage of this approach is that the Scottish Government already has established processes in place for collecting, manipulating and analysing such data on an annual basis. Hence establishing a broad estimate of the extent and distribution of HNV farming systems for any one year is simply a matter of analysing already existing information, rather than having to put in place mechanisms to collect any separate additional data. However, simply having the facility to track the downward trend in Scotland’s HNV farming system is not enough in itself. Much more needs to be done.

Crofting is a farming system unique to Scotland which is recognised to be of particular HNV, but it is not currently feasible to consistently identify individual crofts, or all the land that they utilise, within national agricultural statistics datasets. The in-byre land and the common grazings utilised by each croft need to be easily recognisable and connectable in agricultural statistic data collection. In
addition, more detailed information is needed on what is actually happening on common grazings. Such grazings may only be c. 9% of the overall total UAA across Scotland, but within some RPACs common grazings are a considerable component of the UAA. For example, in the Western Isles and Northern Isles, RPACs common grazings cover over 70% and nearly 30% of the UAA, respectively. Just as importantly, over 20% of the estimated extent of HNV in Scotland in 2009 was on common grazings. Given their overall HNV importance, there is a need to know much more about crofting and common grazings and how aspects of their management and underlying nature conservation value may be changing. In this respect, Gwyn Jones’ recent assessment of some of the underlying issues provides a useful list of detailed recommendations as to what could be done to obtain more information on Scotland’s common grazings (Jones 2011).

Colleagues in SAC working with the author and others have also produced a report for the UK Land Use Policy Group (LUPG) which could help inform thinking on the development of relevant HNV farming support policies, frameworks and strategies (Barnes et al. 2011). The main objective of this work was to consider the scope for developing alternative types of payment that would be compliant with the WTO Green Box rules, and to test these as possible models for environmental support. In order to satisfy WTO rules, any changes to the framework for payment calculations in agri-environmental and other area-based rural development measures need to demonstrate only limited production and trade effects. However, this may be less of a problem for ‘non-economic’ farming systems which generally have rather little market impact, if the environmental objectives of these farming systems are clearly defined and linked to government policy.

The LUPG work involved financial modelling of farm types and the testing of three alternative payment approaches: (1) an agri-environment type, site-specific payment, which would be justifiable where a management activity is unprofitable. The calculations were based on the full cost of management, including a proportion of the fixed costs; (2) based on assistance for disadvantaged regions where farming systems provide environmental public goods. This approach explored the scope to develop holding-level payments based on a whole farm agri-environment undertaking and was based on estimated gross margins; (3) also involved a holding-level approach, but was based on the opportunity cost of farming expressed in the form of alternative income options within areas subject to natural handicaps.

Testing the approaches directly for a selection of Scottish and English farms with HNV farming system characteristics tended to generate much higher levels of payment than received under the present agri-environment and Less Favoured Area support mechanisms. We highlighted in the report that this should not be seen by policy makers as a disincentive to explore these payments mechanisms further, since it can, and should, be argued that such farms are a special case for protection, provide important ecosystem services and therefore merit a higher level of support from society.

It is important to note, however, that the European datasets from which the farm level financial information was drawn do not include data from crofting or other small-scale or part-time farming systems. Hence, further work will be required to test the applicability of these approaches at a Scottish and wider European level. Nevertheless, an additional important conclusion from the report was that there is scope under the current WTO rules for taking the absence of land management (or cessation of specific land management activities) as the baseline for calculating agri-environment payments in certain circumstances.
An opportunity to support HNV farming systems in Scotland post-2013?

The aims of the HNV farming system approach as applied in Scotland were primarily to provide a broad overview of the estimated extent and distribution of HNV farm holdings across Scotland, and to help identify any apparent gaps in knowledge or parts of Scotland where further more detailed investigation may be needed. The approach was not intended to provide detailed information on the underlying condition of the HNV farming system resource or to quantify how much of the 2007-2013 SRDP budget was being directed at HNV farming systems. Knowing the answers to such questions will be essential in the overall assessment of the SRDP, but different approaches will be needed to address these.

In July 2011, the Scottish Government commissioned a monitoring study concerned with measuring the natural heritage outcomes resulting from the biodiversity measures in the 2007-2013 SRDP. Although having a focus wider than just HNV farming systems, it is envisaged that this study will help provide an indication of any site-specific, farm level changes in the condition of habitats associated with HNV farming systems. The Scottish Government and SNH also intend to utilise case studies of HNV farming to provide descriptions of changes in specific farming types and practices that are known to be important for supporting biodiversity values. The author is also continuing to work with the Scottish Government and Forestry Commission Scotland to consider the impact that current SRDP measures have on HNV farming and forestry systems in Scotland.

It is, however, clear not only that a large proportion of Scotland’s agricultural land is under HNV farming systems, but also that changes in these farming systems in Scotland’s islands, hills and uplands have increased since the European-wide changes to the CAP support mechanisms were implemented in 2005. There is therefore an additional urgent need to consider not only what types of HNV farming-specific support mechanisms are required in Scotland but also what policy framework will ensure that such support can be developed and implemented effectively. These needs are made all the more important given the additional changes to CAP support mechanisms scheduled to come into place post-2013.

No specific mention of HNV farming systems has been made in the draft text of the CAP Reform proposals released by the European Commission in October 2011. However, it is highly likely that the extent, distribution and condition of HNV farming systems, together with the amount of CAP Rural Development Programme (RDP) support being directed to these systems, will remain as a means by which the European Commission will evaluate each Member States’ RDP. The potential in the reformed CAP to use some of the Pillar 1 budget for coupled actions and to target additional funding to areas with natural constraints, appear to provide potential opportunities to direct some additional funding to HNV farming systems. However, if HNV farming systems are not highlighted as a priority in the text of the reformed CAP, what will encourage Member States to take the opportunity to use these funding mechanisms in that way?

Developing effective support mechanisms for HNV farming systems in Scotland, and elsewhere in Europe, therefore must be a major consideration in the CAP reform negotiations taking place over the coming months and years.

References


For more information on SAC’s Rural Policy Centre please contact:

Dr Jane Atterton, Researcher, Rural Policy Centre, SAC, Kings Buildings, West Mains Road, Edinburgh, EH9 3JG. T: 0131 5354256; E: jane.atterton@sac.ac.uk; W: www.sac.ac.uk/ruralpolicycentre.