

# Proposal for a Locally-led, Results-Based Agri-environment Payment Scheme (RBAPS) for the Blackstairs Mountains

Colin Gallagher, Gwyn Jones & Mary Tubridy      December 2015

*A report for the Blackstairs Farming Group*

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**December 2015**

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*'The mountain didn't get that way without work'*

Comment by a Blackstairs hill farmer during the Ballyglisheen farm walk, August 2015

Cover photo of Dranagh by Helena Fitzgerald

## 1. Introduction

In 2015, the Blackstairs Farming Group, inspired by the opportunity set out in the Irish Rural Development Plan (RDP) for 2014-20, took the lead and looked for help in designing a results-based agri-environment payment scheme (RBAPS) tailored to their local area. They secured financial support from the Heritage Council and Carlow and Wexford County Councils to pay for background surveys – work that was awarded to Mary Tubridy and Associates – and help in kind from the European Forum on Nature Conservation and Pastoralism (itself in receipt of European Commission and Heritage Council funding).

Many meetings were held locally, a desk-based data gathering exercise was undertaken and an ecological survey of the mountains was carried out over the summer. This information is set out in two background reports<sup>12</sup>. This report draws on that work and sets out a proposal for an RBAPS option for the Blackstairs Mountains.

Although this proposal addresses the local needs of a particular area of SE Ireland, there is likely to be a considerable overlap with the issues and challenges affecting other uplands in Leinster and indeed further afield in Ireland. Given the likely limitations on the number of locally-led schemes DAFM can accept when it eventually opens its call for tender, finding these complementarities and exploring the possibilities of collaborative approaches between areas must be priorities for action in the coming months.

## 2. What is a Results-Based Agri-Environment Payment Scheme (RBAPS)?

In most traditional ‘management-based’ agri-environment payment schemes, the payment relates to defined agricultural management requirements which must be carried out by the farmer or land manager. REPS, AEOS and most GLAS options are examples of this kind of measure. In a results-based agri-environment payment scheme (RBAPS), the payment relates to the achievement of a defined environmental result, and the farmer or land manager is allowed the flexibility to choose the most appropriate management to achieve that result<sup>3</sup>. The Burren locally-led element of GLAS and some of the measures being piloted in AranLife are examples of RBAPS in Ireland.

Some of the potential benefits of RBAPS measures include:

- a much clearer link between payment and biodiversity achievement;
- contracts with farmers simply specify the results required, rather than defining in detail the farm practices that should be carried out;
- the ‘production’ of biodiversity becomes an integral part of the farming system and farm business, not just another set of land management ‘rules’ to be followed;
- farmers have the opportunity to use their management skills, professional judgement and knowledge of the farm and are rewarded for achieving the results of these entrepreneurial efforts, rather than just following instructions defined by the authorities;
- farmers are encouraged to take responsibility for and to ‘own’ the biodiversity results, and this can lead to greater public recognition of farmers’ role in supporting biodiversity objectives;
- results-based schemes potentially more easily meet the strengthened EU requirements for verification of agri-environment-climate payments under the 2014-20 CAP;

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<sup>1</sup> [www.efncp.org/download/Blackstairs\\_Biodiversity\\_Audit\\_2015.pdf](http://www.efncp.org/download/Blackstairs_Biodiversity_Audit_2015.pdf)

<sup>2</sup> [www.efncp.org/download/Blackstairs\\_Background\\_Report\\_2015.pdf](http://www.efncp.org/download/Blackstairs_Background_Report_2015.pdf)

<sup>3</sup> <http://ec.europa.eu/environment/nature/rbaps/handbook/docs/rbaps-handbook.pdf>

### 3. Selection of environmental targets

Since the incentives in RBAPS measures are results-based – they relate to the quality of the parcel entered compared to certain desired outcomes – selection of the specific environmental issues to be targeted by the measure is a very important step. In the Blackstairs case, a number of data sources informed the selection of those targets.

#### 3.1. Commonage Framework Plans

Most commonage units and almost 2/3 of the area of commonage on the Blackstairs were assessed in 2000-1 as ‘Undamaged’, with most of the rest of the area being considered only ‘Moderately Undamaged’. Destocking was recommended on 3 of the 16 units assessed.

CFP reference no.	Total area	Condition							Burning	Overall destocking level %	Other comments
		U*	U	MU	MM	MS	S	S*			
CW010A	47.50		47.50							0.00	
CW010B	22.00		22.00							0.00	
CW010C	28.00		28.00							0.00	
CW010D	106.00		106.00							0.00	
CW010E	1.44		1.44							0.00	
CW010F/ WX020A	2391.60		1310.60	1011.50	36.00	33.50			Y	13.30	By implication, supplementary feeding a local issue
CW010G	5.00		5.00							0.00	
CW010H/ WX020F	1392.05		1243.95	148.10						2.31	
CW010I	477.00		98.00	302.00	77.00					24.30	
CW010J	2.85		2.85							0.00	
CW010K	4.13		4.13							0.00	
WX020B	10.50		10.50							0.00	
WX020C	0.50		0.50							0.00	
WX020D	12.30		12.30							0.00	
WX020E	4.20		4.20							0.00	
WX020G	19.08		19.08							0.00	
<b>Totals</b>	<b>4524.15</b>	<b>0.00</b>	<b>2916.05</b>	<b>1461.60</b>	<b>113.00</b>	<b>33.50</b>	<b>0.00</b>	<b>0.00</b>			

Figure 1 Summary of Commonage Framework Plans for the Blackstairs

However, this destocking coincided with the decoupling of the Single Payment in 2003, and there is concern that the overall impact, combined with an ageing farmer population, has been to reduce grazing activity on the mountain excessively and/or potentially irreversibly or in a way which pushes pasture management towards the increased use of burning (see 0 below).

#### 3.2. SAC Conservation Plan

5052 ha of the unenclosed open mountain in the Blackstairs are designated a Special Area for Conservation (SAC) under the Habitats Directive (Site Code 770), because of the presence of two listed habitats: European dry heaths and Northern Atlantic wet heaths with *Erica tetralix* (cross-leaved heath). The site is particularly important for the former, containing 17% of the total area in the Republic of Ireland.

It is the Government’s responsibility to monitor the site and ensure that its habitats reach ‘Favourable Conservation Status’. To this end, a Conservation Plan was drawn up in 2006<sup>4</sup> for the period to 2011. While the recommendations of this plan are not therefore current, this document

<sup>4</sup> <http://www.npws.ie/sites/default/files/publications/pdf/CP000770.pdf>

remains the most recent assessment of the issues on the site by the 'Competent Authority' in these matters, the National Parks and Wildlife Service (NPWS), and subsequent work should at least reflect back on its conclusions and on how the situation may have changed in the interim. Again, the coincidence of the plan with the far-reaching changes to CAP direct payments would suggest that a reassessment is likely to be necessary.

A number of management issues are identified in the Plan, some of which relate to agricultural land use and the activities of farmers:

- *Use of all-terrain vehicles (ATVs)*, especially quad bikes. While this is identified as an increasingly serious issue, it seems that it is mainly recreational use which is raising concerns.
- *Burning*. Areas within the site have been burnt and parts of the site have been damaged by excessive burning. Vegetation burning is often carried out on a short-term rotation, with some areas being burned in successive years. Ling Heather is regenerating in some of the burnt areas. Uncontrolled burning is detrimental to the conservation of upland habitats. Burning areas of vegetation over 5ha, or burning any area more often than once every 15 years are both notifiable actions. Substantial areas were burnt during 2003 and burning is a significant problem every spring.
- *Decline of the red grouse population*. The 2006 plan reports that 'the population of Red Grouse [had] declined over the past ten years'.
- *Erosion*. While much of the erosion is attributed to non-agricultural factors, 'Fire damage and/or overgrazing may also have exacerbated this erosion'.
- *Grazing pressure*. The impacts of grazing on the commonage areas of the site have been assessed by the Commonage Framework Planning Project (CFPP, plans CW1 and WX2). While the dry heath areas are 'largely undisturbed and intact' and grazing pressure on most of the site has left it 'undamaged', 'localised areas within the site have been moderately damaged, most notably due to poaching and through the use of ring feeders'.

The Plan sets out a number of actions, which can be summarised as follows in as much as they relate to farming activities:

- Manage grazing pressure to relieve the pressure on those areas which are moderately-damaged
- Control burning, so that it respects the legal limitations on frequent burning and on burning large areas

The parcels where action was deemed necessary in 2006 are indicated in Map 4 of the Plan.

The Plan also notes that 'several notable plant species have been recorded on the site including bird's-foot, a species listed in the Red Data Book as 'Rare', and cranberry, which is scarce in County Wexford and Carlow. Some alpine heath species including stiff sedge, starry saxifrage and club-moss occur on some of the summits. Notable bird species that have been recorded on the site include golden plover, hen harrier and peregrine falcon, all listed in Annex I of the EU Birds Directive, and red grouse, a species of conservation concern in Ireland. Notable mammal species include Irish Hare and Badger.

### **3.3. Background work for this proposal**

Two reports were written as preparatory work for this proposal. A Biodiversity Audit mapped all the upland habitats on the Blackstairs Mountains using a condition assessment methodology based on that used in a national survey of upland habitats. A second report details relevant local area statistics and the results of questionnaire and other consultations with the local farmers.

The Biodiversity Audit showed that all habitats are in good condition. However, some of the dry heath had been frequently and intensively burnt, often (though not always) with the result that ling heather became the sole dwarf-shrub present and, perhaps, more crucially, leading to extensive exposure of bare peat or soil. Where burnt often and intensively, bracken becomes more common. While heather regeneration was usually very good, there were some local exceptions, especially where burning had also affected neighbouring stands of bracken.

The ling heather – bell heather heath which was the type most frequently burnt is relatively tolerant of such management as long as burning events are spaced out – e.g., once every 8-12 years – and most dry heath areas examined seemed to have a good complement of species apart from ling heather, with the heath around Mt. Leinster often being particularly species-rich (here most of the damage by burning was done to the blanket bog and to the rare type of heath found there).



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A range of nationally or internationally significant vertebrates and plant species are found on the Blackstairs (see Table 1 for birds and mammals). As indicated in the Conservation Plan, the population of red grouse – a Red Data species in Ireland and a well-known flagship species of the upland bird suite – is in a perilous state. It is estimated that only 10-12 pairs are now present, the bird reportedly having once been relatively common (a pair about every kilometre of the ridge about 20 years ago).

The Blackstairs form the headwaters of three catchments with populations of freshwater pearl mussel – a species listed in Annex II of the Habitats Directive. All three populations are in danger of extinction<sup>5</sup>; while the major threats they face do not originate in the Blackstairs, all management

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<sup>5</sup> See

[http://www.wfdireland.ie/docs/5\\_FreshwaterPearlMusselPlans/Freshwater%20Pearl%20Mussel%20Plans%20March%202010/](http://www.wfdireland.ie/docs/5_FreshwaterPearlMusselPlans/Freshwater%20Pearl%20Mussel%20Plans%20March%202010/) for sub-basin plans for Aughavaud, Ballymurphy and Mountain populations

proposals in the mountains should take into account the need to avoid further challenges to these threatened populations.

An analysis of government statistics showed a number of relevant patterns. Firstly, sheep numbers had declined markedly not only since 2001 (and the advent of the Commonage Framework Plans and the decoupling of direct payments), but in many townlands since 1991 (possibly related in part to the introduction of Sheep Annual Premium quotas). It is likely that the scale of decline on the mountain grazings is even steeper. Second, farm numbers are declining but farmer age continues to rise – this is not a pattern of ‘rationalisation’ and the transfer of holdings to younger, ‘more enterprising’ individuals.

	Birds Directive Annex I	Irish Red List	Irish Amber List
Golden plover	x	x	
Hen harrier	x		x
Kestrel			x
Meadow pipit		x	
Merlin	x		x
Peregrine	x		
Red grouse		x	
Ring ouzel		x	
Skylark			x
Stonechat			x
Whinchat		x	
Yellowhammer		x	
Leisler's bat			x

Table 1 Birds and mammals of conservation concern<sup>6</sup> named in the SAC Conservation Plan or Biodiversity Audit

### 3.4. Farmer opinion

Local farmers noted a pattern where the vegetation on the mountain has become denser and taller, with more scrub and encroaching bracken and furze (habitat mapping showed a 10% increase in bracken cover in certain Carlow townlands between 2002 and 2015). Forage quality was said to have decreased and shepherding was becoming harder. Controlling the vegetation by grazing alone was becoming more difficult, yet vegetation which was deemed to be undergrazed by DAFM could lead to areas being declared effectively unfarmed and therefore ineligible for CAP payments. Farmers recognise that bracken and scrub have always been features of the agricultural landscape around the Blackstairs. However, in some areas undergrazing can lead to their expansion, taking over grazing areas, reducing habitat diversity and thus overall biodiversity and causing land to be ineligible under the Basic Payments Scheme despite the best efforts of the farmer.

Overgrazing is considered a problem by just 18% of the respondents, probably all associated with commonages at the northern end of the mountain range.

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<sup>6</sup> <http://www.birdwatchireland.ie/LinkClick.aspx?fileticket=EjODk32LNcU%3D&tabid=178> and <http://www.npws.ie/sites/default/files/publications/pdf/RL3.pdf>

Local reports suggest that the frequency and intensity of fires has increased; this is likely to be at least in part in response to these pressures. A slight majority (59%) of farmer respondents stated that burning was a problem on the Blackstairs range. While there was generally a 60/40 split between those who considered burning to be a problem and those who didn't, almost all agreed (anecdotally) that burning management should be improved. Although burning is a traditional feature of upland land management in the Blackstairs, local reports confirm that burning occurs outside of the period when officially allowed under the Wildlife (Amendment) Act and occasionally affects large areas. This type of burning practice is not optimum for dry heath.

While some the numbers of some species were perceived to have increased recently, others were thought to have decreased, and the reduction in grouse numbers was a specific concern.

The planting of forestry was also thought to have pushed grouse higher up the mountain, while failure to maintain forestry fences was another factor making sustainable grazing of the mountain more difficult.

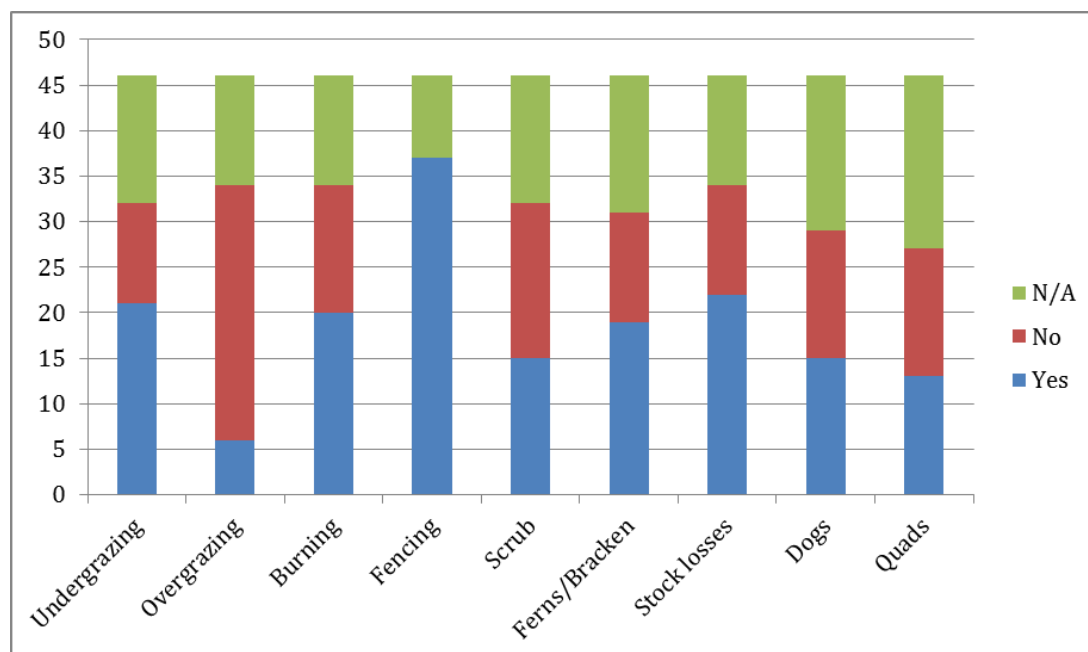


Figure 2. Farmers' perception of the significance of problems on the Blackstairs

### 3.5. Proposed environmental targets and intervention logic

Given that such a significant proportion of the mountain vegetation is made up of Annex 1 habitats, and that these provide the main rationale for the designation of the Blackstairs Mountains SAC, maintaining those habitats in good conservation status has to be the main priority for any locally-led RBAPS measure. Maintaining thriving populations of typical species is a key aspect of such favourable conservation status – in this case this includes the suite of upland bird species.

The Water Framework Directive similarly requires the reaching of certain standards in river basins and sub-basins. A number of significant issues arise in the catchments draining the Blackstairs Mountains, including public water supply<sup>7</sup> and populations of the protected freshwater pearl mussel.

<sup>7</sup> Carlow and Wexford County Council data (pers. comm.) indicate that approximately 14,200 and 7,600 people respectively are connected to a public water supply originating on the Blackstairs.



Ensuring that all rivers leaving the mountains are in good ecological status should therefore be a second element in the environmental targets, one which is wholly consistent with and complementary to the first.

In contrast to some areas of the country, the Blackstairs were mostly found to be in relatively good condition in the early years of the new millennium. Destocking was only recommended on a few management units during the Commonage Framework Planning process and most of the habitats were found to be in favourable status at the time of writing the SAC Conservation Plan.

The intervention rationale in the Blackstairs is therefore based not on a need to reach favourable status but rather on a perceived threat to the maintenance of this status over the coming years and an awareness that even the current situation is not optimal, not least for iconic species such as red grouse and other upland birds.

An overall Blackstairs quality indicator should be elaborated within the community. This should incorporate objectives relating to

- the maintenance of the semi-natural habitats, especially those found in Annex 1 of the Habitats Directive, by
  - o maintaining appropriate levels of grazing
  - o implementing good burning management,
- increasing red grouse population, and encouraging nesting hen harrier and other priority species.
- ensuring that all water bodies within the Blackstairs achieve and are maintained at high ecological status

#### **4. Complementarity with existing CAP payments**

The need to provide a coherent message between agri-environment payments and the Basic Payment Scheme and Areas of Natural Constraint Scheme is noted.

Within agri-environment, the most relevant GLAS measure taken up by farmers in the Blackstairs, namely the commonage measure, was examined, so that a locally-led RBAPS proposal would provide additionality and avoid double funding. Some farmers would also receive priority through having privately-owned Natura land.

The objective of the GLAS Commonage Management Plan is to *“ensure that commonage lands are appropriately grazed and managed to ensure they remain in GAEC and are compliant with eligibility criteria”* and the assessment of condition must consider a range of characteristics:

- Heather (growth stage, %cover and signs of grazing)
- *Molinia* (assessed on leaf litter evident between Nov – April; young growth between May-June; and grazing levels between Jul-Oct)
- Scrub (% cover of all woody tree/shrub species except bog myrtle and dwarf heaths)
- Sward (overall quality based on % cover of rank vegetation, diversity, cover of *Nardus* and grazing resistant species)
- Observed evidence of livestock/grazing/dung/hoof prints.

The weakness of the option is that it does not include monitoring of habitat condition. Farmers will be paid based simply on the evidence that they hold the correct numbers of stock (though it is not clear how evidence of the actual grazing of those animals on the commonage will be obtained). While the CFPs have undoubtedly improved the habitat conditions in some areas, it is clear that current agri-environment supports do not go far enough to address some of the local threats and pressures on the habitats and at farm level. More effective management measures that target

specific environmental objectives and meet the individual farming challenges associated with the local farming systems are required.

Actions supported by any locally-led scheme must be different to those required under GAEC or GLAS in order to avoid double funding. The broad terms in which DAFM has set out the objectives for commonage in the GLAS measure ('appropriately grazed and managed') raise issues of potential double funding (though this, it might be argued, is an issue best settled by examining the – hitherto unreleased – payment calculation), but the key words are 'to ensure that they remain in GAEC and are compliant with eligibility criteria'. This makes grazing and other management which are appropriate to the achievement of favourable status for target habitats and for the populations of target species clearly additional and should, payment calculations permitting, avoid any question of double funding.



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## 5. Targeting

The audit recommended that 'priority areas for the scheme should be land with annexed habitats inside and outside the SAC, particularly those within the catchments of streams associated with rivers supporting freshwater pearl mussels. The [measure] could include land outside the SAC which has habitats of semi-natural value such as old grasslands, bog and scrub as well as the listed habitat dry heath'.

The farm plan will cover a period of five years and apply to upland habitats associated with red grouse (c. 95% of the SAC). Land will principally be in commonage, within the SAC, in privately owned upland areas or outside the SAC where fields support semi-natural habitats.

All farmers who manage grazing, who participate in the farm plan which contributes to the results achieved in delivering improved habitat will be eligible for payment based on the results achieved. Payments will be based on the eligible area claimed by the applicant.

At commonage level a collective application will be made having regard for 30% transaction costs for group applications. Based on the communal plan individual farm plans will be issued to all participants outlining the set of measures and works that have been collectively agreed upon at the preparation stage and for which they are responsible. Shareholders within commonage will thus be offered the opportunity to share responsibility for certain tasks or operate independently.

Individual farm plans prepared for shareholders will allow for the inclusion of other areas of important habitat value such as species rich grassland, riparian habitats which might be present in their land adjacent to the uplands and commonages.

In contrast to GLAS which sets a 42ha limit, the Blackstairs LLAES will provide support on a sliding scale to farmers with larger landholdings according to the following system (Table 2).

Area	Level of Payment
0 – 40 hectares -	100% of payment/ ha
40 – 80 hectares -	45% of maximum payment/ha
80 – 120 hectares -	40% of maximum payment/ha
120+ hectares -	25% of maximum payment/ha

Table 2 Sliding (degressive) scale for payment

## 6. The farm plan

The written farm plan will be similar to that developed in the Burren by the BFCP. Details of the work to be carried out will be shown on a clear and simplified map/aerial photo which will show parcels (including fields and field sizes), plots in GLAS (if applicable), areas with Annex I habitats and features of archaeological interest. The preparation of the plan will be done by an Advisor who will be available locally to answer questions or/and deal with any issues associated with its implementation. The Advisor will manage protocols concerned with adherence to regulatory requirements associated with biodiversity, archaeology and burning.

The development of the farm plans will be farmer led, (either an individual farmer or group of farmers in a commonage). The advisor will facilitate and encourage the formation of Commonage Management Groups as part of the planning process.

The scheme offers a potential 30% for transaction costs where farmers co-operate and this should provide an incentive to collective arrangements.

Development of the plan will take place in the following stages:

- Desktop examination of the habitat mapping GIS to discover nature of habitats and sites and features of archaeological interest
- Field inspection and condition assessment of relevant habitats in the company of the farmer(s) when the scoring system, targets for habitats and funding arrangements are explained. Sites and features of archaeological and cultural importance will be identified. Notes will be taken on management issues of concern to the farmer such as fencing conditions or the presence of particular features which are relevant to management such as firebreaks or presence of routes used by hill walkers.
- Formulation of farm plan objectives.
- Clarification of the proposed works which could be carried out to achieve objectives and improve habitat scores; discussion and advice on possible methods and funding rates associated with particular management actions.
- Combining the expertise of the local farmer with that of the farm advisor will help to create a template from which the farmer can work successfully in future years.

The farm plans should offer flexibility and adaptability so farmers can deliver the desired outcomes of the farm plan in a way that they see as most appropriate and best fits with their own farm system. The plans should be updated annually by advisors who will also be trained to monitor the targets for habitat condition in the LLAES.

## 7. Results-based element

### 7.1. Scheme commitments

It is not within the gift of Blackstairs farmers to increase the numbers of breeding red grouse on the mountain range – all they can do is to provide optimal habitat conditions for the species. Farmers who produce the best quality habitat for red grouse will be paid appropriately for this, just as the income they get from sheep farming depends on producing a high quality output in the form of lambs/ other stock. It is management for good habitat condition which will be rewarded in this measure, management which will help maintain the Natura site and adjacent areas in favourable conservation status.

Generic guidelines for the habitat requirements of red grouse nationally have been produced (NPWS, 2013, O’Toole, 2014, Cummins, 2010, Red Grouse Steering Committee, 2013 and NARGC). Characteristics of good grouse habitat are:

1. A good even coverage of grazing
2. Broad age range of healthy heather; longer heather for nesting; cover and shelter; younger heather shoots for feeding.
3. Presence of species typical of the semi-natural habitat
4. Low cover of bare soil
5. Low cover of bracken and little sign of scrub encroachment.
6. Presence of wet flushes and small streams

In the same way as the Burren and RBAPS pilot project measures, the proposed Blackstairs measure will have a five-point scoring system for these indicators or characteristics which can be understood and implemented by farmers. For example a low cover of bare soil would attract a high score where as a high percentage of bare soil coverage would attract a very low score.

Further consideration must be given to assigning thresholds scores for these indicators and clarifying their relative importance to ensure they adequately describe habitat conditions and conditions for red grouse but at the same time ensuring that the score remains achievable for the majority of farmers.

During an initial assessment of land managed by a farmer participating in the LLAES the indicators would be scored. Following this assessment a final overall score of between 1 (poorest quality) and 5 (highest quality) would be given to the plot. Table 4 provides a preliminary description of the land characteristics related to these scores and Table 3 shows how these relate to the CFP assessment scores.

It is not expected that a score of 1 or 2 would provide sustainable breeding habitat for red grouse and therefore payments would start once the plot received a score of 3. During the planning and testing phase this should also be trialled with a 10 point scoring system, which could measure for smaller improvements in habitat quality over the year.

Once the initial assessment is complete, the farmer will be aware of where his/her plot stands in the overall scoring band and can, with guidance from the project team, work to improve the score over the year by implementing a choice of enhancement actions.

In certain locations the system may need to be expanded to consider other annexed habitats such as montane grassland and species rich *Nardus* grassland which cover small areas in the SAC and other types of semi-natural habitats outside the SAC, such as cutover bog, scrub and wet grassland.

Commonage Framework Plan damage category	Habitat condition for commonage management plan	Results based Score for habitat	Results based LLAES payment structure
U* (Rank and Undergrazed)	Poor	0	€0
U (Undamaged)	Good	5	€Maximum rate
MU (Moderately undamaged)	Average	4	€ increases as score increases and environmental quality improves
MM (Moderately damaged)	Average	2-3	€ top-up starts at a score of 3
MS (Moderately to Severe)	Poor	1	€0 top up
S (Severely damaged)	Poor	0	€0 top up
S* (Very Severe damaged)	Poor	0	€0 top up

Table 3 Relationship between CFP assessment, scores and result-based payments

Score	Rationale
5	Grazing management optimal. No damaging signs of burning, good age mix of heather (but where an area has recovered from burning might still be even aged), no bare peat, bog moss (Sphagnum) species in wet areas. Species diversity high i.e. shrub diversity, herb diversity, bryophyte diversity. Some small areas of scrub.
4	Good coverage of heather and good representation of age ranges. Slightly undergrazed but good shrub and herb diversity. Good signs of recovery from burning. Limited diversity of bryophytes. Some signs of bare peat.
3	Poor representation of age ranges of heather and problematic recovery from burning. Obviously undergrazed. More signs of bare peat and bracken encroachment
2	Dominated by a low number of plant species due to undergrazing or excessive burning. No broad range of heather ages and poor prospects of recovery from burning. Vegetation dominated by dense high coverage of mature – degenerate heather. Bare peat and bracken very obvious
1	Grazing and burning management poor. Area undergrazed. Bare peat obvious, Low species diversity. Probably only bog cotton in wet areas and little or no ling heather. Where heather present it is even aged. No mosses except for Campylopus and Polytrichum (indicators of extensive and frequent burning). Bracken cover high. Increasing scrub encroachment.

Table 4 Explanation of draft scoring system

## 7.2. Payment calculations

Table 3.5 provides an example of a payment system which rewards farmers on the basis of the score their habitat achieves and the area of land which they manage. In this example the payment rate is allocated over a 10 point scoring band rather than 5 but the same principal applies.

Score	1-3	4	5	6	7	8	9	10
0-40ha	0	€20	€40	€60	€70	€80	€90	€100
40-80ha	0	0	€20	€25	€30	€35	€40	€45
80-120+ha	0	0	0	€20	€25	€30	€35	€40
120+ha	0	0	0	0	€10	€15	€20	€25

Table 5 Results-based payments per ha for each score

The additionality provided for under the red grouse results based measure will incur costs in the form of income foregone, costs incurred and capital costs. These will provide the basis for the higher payments offered to improve the quality of red grouse habitat; it will not be possible to pay for positive ecosystem services while agri-environment payments are limited to compensating for additional costs or income foregone. An example of the cost that would be included in calculating the payment of the results based element of the plan is the extra labour required by farmers to shepherd sheep for targeted grazing.

While it is not possible to provide details of payments until the budget for the Uplands/Peatlands LLAES is available and payment calculations for GLAS are published, estimates have been provided of shepherding costs by McGurn and Moran<sup>8</sup>.

Input	Details
Additional 2 days shepherding per week @ 2 hrs per day.	4hrs/wk
Number of weeks grazing on the hill	35
Total shepherding time (4hrs x 35 weeks)	140 hrs
Average flock size	150
Total time per ewe (140hrs/150 ewes)	56 mins
<b>Total cost of shepherding per hectare (labour calculated at €15/hr)</b>	<b>€14/ha*</b>

Table 6 Indicative cost of additional shepherding to maintain favourable conservation status of commonage

An additional transaction cost (30%) can be provided for collective action on commonage.

## 8. Complementary actions

It is proposed that the basic area payment is supported by a menu of possible complementary actions, all to be carried out using best practice techniques, particularly in the designated area. Farmers can opt in or out of these actions without fear of penalty, but with the knowledge that if the works are not carried out, their plot score and therefore payment may not increase. As part of the farm plan, farmers who want to carry out the enhancement actions on commonage should be facilitated to come together to consider their plan of action so that maximum efficiency and value is gained from the works and so that they can agree on methods and timings that are suitable for all involved.

### 8.1. Fencing round Coillte plantations

Providing an enhancement action for fencing around Coillte forests would prevent sheep from entering forestry plantations, ensure they remain within the commonage, reduce herding time, fire risk and encourage farmers to return to farming on the commonage. It should also improve hefting qualities within the flocks. There are a number of precedents on the Blackstairs where Coillte have supplied shareholders with materials for fencing. Under TAMS II farmers with private mountain land can avail of a grant for fencing (€8.01/m) but this is not available on commonage land. Clarification is required on the legal responsibilities for fencing these boundaries. If commonage farmers have no legal responsibility as to the maintenance of the fence then a 100% payment should be allocated to shareholders for the cost of repair/new fence. Farmers should also be given the option of erect a more permanent type of fence such as galvanised clipex posts which offer a thirty year guarantee. As boundaries between Coillte and private land may also feature the 'commons ditch' a very significant stone wall, fencing will not be appropriate. At these locations stone walls will be reinstated if they have fallen into disrepair.

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<sup>8</sup> McGurn, P. and Moran, J. (2013) *Developing a targeted-based programme for HNV farmland in the North Connemara Area*. Unpublished report for the Heritage Council by the European Forum on Nature Conservation and Pastoralism.

## 8.2. Bracken ('ferns')

While ferns with grass growing underneath are eligible for the BPS payment and can support the mosaic of habitats in upland areas, there is a trend towards increasing ferns/bracken cover. If bracken coverage becomes too dense grass growth is suppressed and land will become ineligible. Reducing the expanding range of bracken will also reduce the possibility of the carcinogenic compound ptaquiloside (PTQ), which is associated with the plant, from entering freshwater sources.

The LLAES should offer an option to use several possible measures of direct control (hand cutting, mechanical cutting/rolling, chemical treatment) to remove bracken in suitable areas. Consideration could also be given to tree planting which will reduce bracken cover. Table 7 lists methods which could be employed. Payment for this action would be based on the area of bracken appropriately cleared or shaded during the year.

Management Method	Description
Mechanical Bruising/rolling on flat fields	Can be more effective than cutting as the plant continues to send nutrients up the plant rather than sending out new shoots, which is what can happen following cutting.  Recommended treatment is twice a year (June – August) for first 3 years and once in year 4 and 5.
Cutting	Bracken can be hand pulled though labour intensive and rarely carried out today. If terrain is not accessible with ATV cutting can be carried out with the aid of a strimmer with blade.  Cut at least twice in 1 <sup>st</sup> yr. (May-August) and once every following year for 5 yrs.
Herbicide Application	Herbicide is effective but currently available herbicides are not selective. (An emergency authorisation for the use of Asulam, the only herbicide which is specific for bracken, was granted in Ireland in 2015).  Methods of application vary according to site conditions, environmental and planning constraints etc. and include hand held sprayer, weed wiper or handheld lance mounted on ATV. Aerial application is suitable for larger areas that are inaccessible. However vegetation development after control with herbicide in the uplands may be slow and rarely results in the restoration/development of the target community.

Table 7 Bracken control methods

## 8.3. Targeted grazing aids

Additional methods may need to be employed in addition to the extra shepherding such as the use of temporary fencing or the use of supplementary feeding/mineral licks using a rocker feeder. The latter should be monitored closely as the flock can become reliant on feed and it can also lead to localised trampling and an increase of nutrients entering the environment.

## 8.4. Management of scrub

The aim of this action is to manage the expansion of scrub so that it will enhance rather than diminish local biodiversity. Management objectives for scrub will specify a particular optimum extent in a particular area and timescale for treatment. Methods of control would be discussed between the farmer and the planner (Table 8) so that farmer can then decide if this objective is feasible in his/her list of enhancement actions for the year.

Management Method	Description
Mowing/ Flailing	Suitable where smaller seedling shrubs need to be controlled. Flails and mowers with collectors are available for ATVs (both independently powered and powered by PTO)
Cutting	Effective on more mature stands of scrub using tools such as chainsaws or clearing saws. Very small scale cutting can be achieved with light hand tools – loppers, bow saws, billhooks and axes. Tractor powered machinery (flails) can be used if site/environmental controls permit. All cutting operations will require follow up treatment to prevent re-growth from stumps (usually glyphosate)
Herbicide	Very young/low scrub can be treated directly with herbicide. Larger stands must be cut first and the stumps treated. This method should only be used as the last practical alternative.
Stump removal and grubbing	Mostly carried out with machines (grinders, diggers, bulldozers) and can be effective but very destructive and unlikely to be used on sites of conservation value with sensitive soils.

Table 8 Management options for scrub clearance

### 8.5. Invasive species

Where the invasive species Himalayan balsam and Japanese knotweed are identified during the farm survey, information about the ecology of these species should be provided to the farmer and enhancement actions should include their removal and control. Techniques are described in Table.

Management Method	Description
Cutting	This is only suitable for Himalayan Balsam. Cutting should be carried out before the flowing stage in June and repeated annually until growth is prevented. Japanese knotweed should not be cut as even the smallest cutting (1cm <sup>2</sup> of leaf, root or stem) of Japanese Knotweed can produce a new plant.
Herbicide	Herbicides must always be applied very carefully near sensitive habitats such as watercourses or ditches. Himalayan Balsam can be sprayed with glyphosphate using a weed wiper or knapsack sprayer from April and always before flowering. Repeat checks will be required throughout the growing season. Repeated herbicide treatments over several years (3-5) are required for Japanese Knotweed. Garlon (Dow Chemicals) is optimally used from mid to late September following an earlier application in Year 1. In sensitive habitats i.e. near watercourses stem injection or weed wiper are more appropriate application methods. Japanese Knotweed should not be composted or dumped, due to the risk of regrowth from small fragment of plant material.
Grazing	Grazing from April throughout the growing season can effectively control Himalayan Balsam in appropriate areas.

Table 9 Recommended treatments for invasive species control



## **8.6. Introduction of cattle**

Discussion with farmers will include the possible re-introduction of cattle grazing in suitable habitats at appropriate stocking rates to enhance habitat biodiversity and ensure maximum use of forage. While disease control regulations prohibit the mixing of herds the LLAES could support the formation of a “shared herd” where farmers can form partnerships with other willing shareholders thus avoiding the constraints arising from disease control measures. In this situation the LLAES funds could be used to support any additional costs associated with the introduction of a new herd, including additional costs of testing or for the purchase of mobile handling facilities/crush where animals could be tested on site.

## **8.7. Controlled burning**

A managed burning programme will be supported to directly maximize forage value, improve habitat for red grouse and directly protect other valuable features of local biodiversity. Burning may also be carried out to provide fire breaks or to prevent more intensive and potentially uncontrollable fires from occurring. This operation will be discussed in the context of various methods to improve current biodiversity and forage value through actions such as grazing, flailing or tree establishment.

If controlled burning is required the Blackstairs habitat map will provide preliminary identification of location of vegetation types/areas potentially suitable for burning, and areas which are less suitable or unsuitable. Vegetation types suitable for burning are concentrated in areas of dry heath where appropriate assessments have identified that the uniformity of the age structure indicates a necessity for burning. This will be carried out using long burning rotations to minimise possible negative impacts on biodiversity.

The commonage management plan will provide information on location for burning and yearly work programme. The plan will state rotation, 10-12 year (but depends on viability of vegetation), extent of area (for grouse this should be small patches or strips <50m wide by 100m long).

If shareholders in nearby commonages are also in the Blackstairs LLAES plans will be synchronised between adjoining commonages. Farmers involved in burning management will be offered training. They will be supported to meet relevant regulatory requirements which are the responsibility of agencies including the Local Authority, Fire Service, Forest Service, NPWS and Coillte.

## **8.8. Nest protection**

Based on local knowledge and presence of suitable habitat, some or all of the commonage management plans will include objectives related to predator control specifically hooded crows, magpies, foxes and mink which prey on red grouse and ground nesting birds. The purchase and operation of Larsen traps will be supported to achieve this objective.

In order to achieve maximum impacts from predator control some training will be provided and encouragement will be given to assign responsibility for this task to a dedicated commonage shareholder.

## **8.9. Improvement of access tracks to commonages**

The objective of this measure is to ensure access routes to the commonage, used principally by farmers but also walkers, are kept open. It may also result in the re-introduction of grazing in areas which have become inaccessible.

Payment for this action should be based on the results achieved by the farmer/s (e.g. metres of track way redressed, surfaced, new track built). It may also include payment for maintenance/repair of existing track drainage system.

## **9. Complementary enhancement actions**

### **9.1. Archaeological sites**

Following the identification of archaeological sites and traditional stone walls on the land of farmers participating in the LLAES, actions will be discussed with farmers to protect and enhance these features. Recommended actions will be informed by guidelines produced by the authorities and funding will be available, if necessary to support these actions. The protection of archaeological monuments may involve removal or pruning of damaging vegetation, protection from fire or reduction in grazing intensity.

### **9.2. Repair of traditional Blackstairs stone walls**

As the stone wall measure under GLAS is inappropriate for the Blackstairs as many walls are traditionally large and require rebuilding and not maintenance the Blackstairs LLAES will provide a payment to rebuild and repair Blackstairs walls. In order to ensure value for money priority will be given to particular stone walls. These will be the “ Commons Ditch” walls which best represents the Blackstairs tradition, which are still used as stock proof barriers and have value for biodiversity and visual amenity. Similar to the Burren Scheme the payment provided will reflect the work required. This will be calculated to suit wall size and state of repair.

## **10. Training and awareness-raising**

To support effective local action on-going training will be available to all potential participants on an on-going basis. Agencies with related responsibilities will be invited to participate in training (at planning or implementation stages).

Information about the LLAES will be communicated regularly to the local community, who may be interested in volunteering/adding value to the scheme.

## **11. Monitoring and Evaluation – some initial considerations**

Surveys would need to be carried out to ensure adequate monitoring and evaluation at a number of levels:

- Ensuring the methodologies (e.g. scorecards) are robust and to address any issues which arise unexpectedly.
- Monitoring the impact of the measure against its specific biodiversity targets (red grouse, specified Annex 1 habitats, etc.)
- Evaluating the effectiveness of the scheme against a wider set of criteria and against other possible ways of implementing the same policies. Examples include impacts on wider biodiversity (e.g. significant but non-target species), ease of implementation, staff resource implications, and sensitivity to a range of factors from weather to staff skills. It will include an evaluation of the wider benefits of the scheme to the wider community, such as improving awareness of the value of biodiversity and farming and its economic/employment benefits. All key stakeholders would be involved in regular reviews of the scheme to determine what is working well and what is less effective.

Since the measure would be output- or results-based, some of the monitoring and evaluation data will be gathered as a by-product of the project team/local planners' yearly inspection and scoring of the habitats, but an additional dedicated programme of monitoring and evaluation work would need to be designed and implemented.

## **12. Conclusion**

The proposed locally-led Blackstairs RBAPS will maintain and enhance important features of biodiversity and farming systems which are important for biodiversity. While focussing primarily on

the maintenance and improvement of habitat condition, the proposed measure will incorporate support for actions on commonages which are over and above those covered by GLAS. By being available to land outside the commonage which is managed by commonage farmers, in contrast to GLAS, it will offer support for the management of a wider range of associated semi-natural habitats.

Developing this type of agri-environment scheme on commonage will require a scheme that promotes positive communication among shareholders and between farmers and specialists. This possibility was realised during the research for this study as the research process was based on a transdisciplinary approach.

Farmers in the Blackstairs have developed a positive attitude about the possibility of developing their own locally-led scheme. Farmers want to improve commonage governance; they want to come together to overcome the pressures affecting their farming systems and the biodiversity of the area. An appropriately planned and implemented locally led scheme, could deliver the kind of outcomes and results that could improve conservation status in a more self-sustaining way, while also adding value to hill farming systems.



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