The Blackstairs Farming Futures (BFF) Sustainable Farming Project

Final Ecological Report

Thomas Gorman, Project Ecologist

BLACKSTAIRS FARMING FUTURES

eip-agri AGRICULTURE & INNOVATION

An Roinn Talmhaíochta, Bia agus Mara
Department of Agriculture, Food and the Marine

CONTENTS

EXECUTIVE SUMMARY

In 2018, the Blackstairs Farming Futures group began a program to incentivise sustainable farming in the Blackstairs Mountains Special Area of Conservation, Counties Carlow and Wexford. Starting with three commonages, an innovative results-based agri-environmental scheme was rolled out to develop a vision for the future management of the area. The process involved joining farmer's expertise with ecological advice to ensure that the plans were both feasible and of benefit to both biodiversity and landowners. Each commonage formed a Commonage Community Group (CCG), which shared the workload and the payments between them. Once the process was established, seven additional commonages were taken on.

Each CCG was provided with an action plan made from the ecologist's recommendations and the needs of the landowners to actively graze their hills. Each participating commonage received a score from 0-10, derived from a purpose-built ecological scorecard upon which a payment was made. The higher the score, the better the base payment. In this way, farmers would be rewarded for providing improved biodiversity on their land. A secondary payment method could be claimed through 'complimentary measures', which consisted of actions that landowners could carry out based on their plan to improve the score. Actions with a direct ecological focus, such as the removal of self-seeding conifers, could be paid at full rate, whereas actions that were primarily agriculture focused, such as fencing, would be funded at a lower rate.

Overall, eight of the nine commonages improved their ecological score. A unique accomplishment of this EIP was the creation and success of the CCGs. Each commonage successfully discussed the future management of their shared land and agreed upon a management strategy, then implemented it together. This resulted in neighbours working together on the hills side by side for their own mutual benefit and to improve the habitat quality of the heathlands they manage. The key threats to this area are land abandonment and inappropriate burning regimes. The project helped to encourage continued management of the heathland habitats, and a moratorium on burning reduced the number of fires on the hills during the project. However, the project failed to establish protocols with state bodies for controlled burns and now fires are increasing in the area once more.

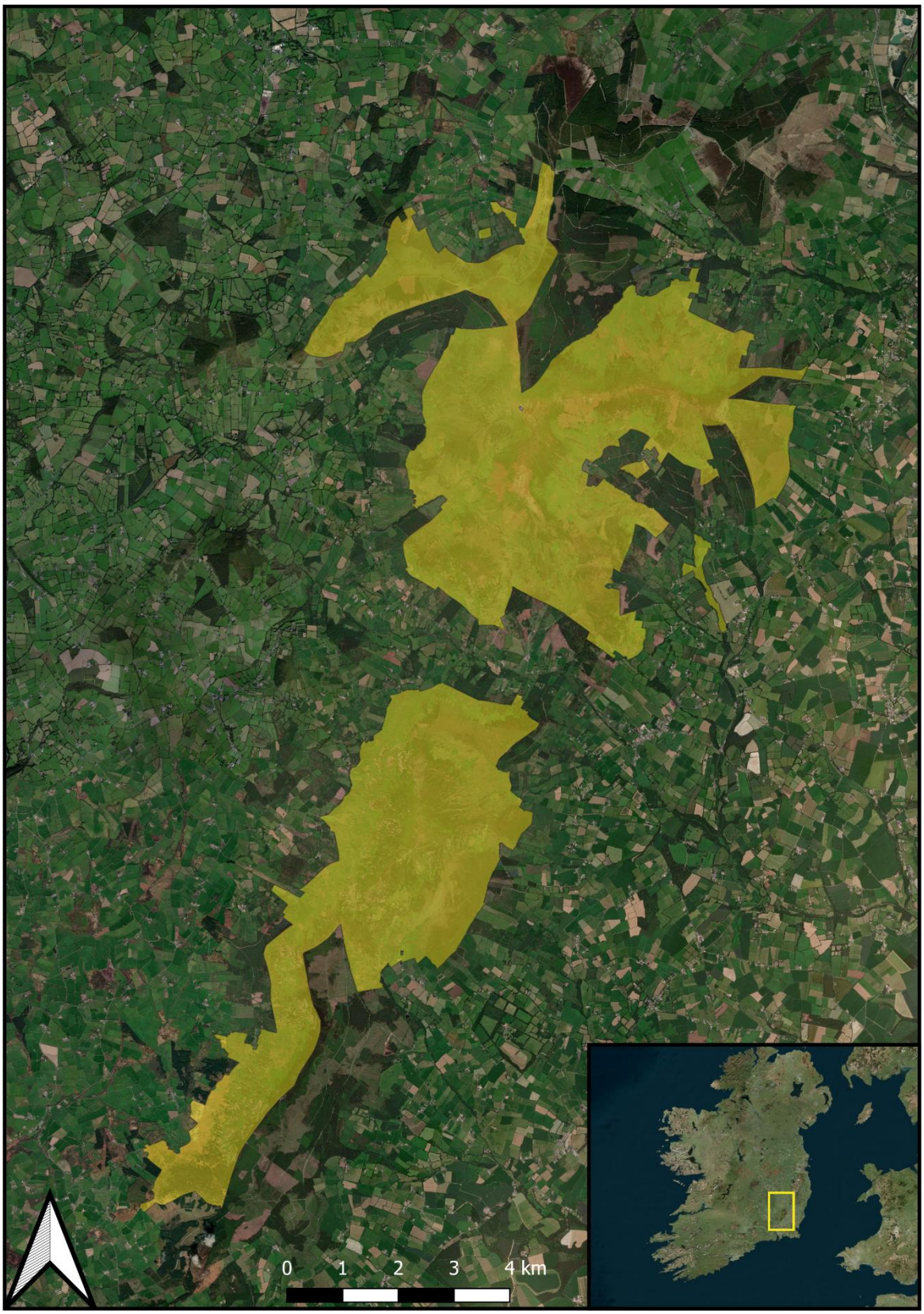


Figure 1: The Blackstairs Mountains Special Area of Conservation, located between Counties Carlow and Wexford

FOREWORD

The Blackstairs Farming Group was initially formed in 2016 in order to apply for EIP Funding from The European Union. The Group was successful in their application for this funding and received 1.5 million euro to be allocated over a 5-year period to implement an Agri Environmental Scheme in The Blackstairs Region on a Pilot basis.

There are approximately 46 Commonages in The Blackstairs Region comprising of approximately 400 individual farmers. We were overwhelmed by the huge level of interest that was expressed by these farmers in joining the Pilot Scheme. Initially 3 Commonages were accepted into the 1st tranche of the Scheme.

We are now in the final year of the Pilot Scheme and have a total 12 Commonages with 148 individual farmers involved. The Ecologist for the scheme was tasked with scoring these Commonages as payments to farmers were to be made on a score card basis. In addition to the score-based payment, farmers were invited to undertake complimentary measures to top up the payment they would receive. Such complimentary measures were tailored to the different needs of each Commonage e.g control of scrub on mountains, maintaining access to lanes and pathways, fencing etc.

Looking to the future we would hope that the Commonage Groups remain intact and continue to work together to maintain the Ecological state of the mountains in The Blackstairs Region for both agricultural and recreational purposes.

Our mountains are a hugely valuable resource and it's important that we as farmers maintain and protect them to the best of our ability for our own generation and those yet to come. It takes many years of work to see any significant change on the mountains, especially with gorse and bracken taking hold. Wildfires are becoming an increasingly big problem, and we are at the start of our journey in putting a plan in place by bringing farmers, The National Parks & Wildlife Service, Local Fire Officers and The Gardaí together to find a feasible solution.

As an addition to the Pilot Scheme by way of disseminating to the wider public we organised a Hill Farming Showcase in the village of Rathanna which is now in its 4th year and has become a very popular annual event for people in the surrounding and wider area. Different breeds of sheep are exhibited, local arts and crafts are promoted, traditional farming methods are demonstrated and there are dog trials along with many other forms of entertainment.

In conclusion, the Pilot Scheme in the Blackstairs Region has been hugely successful and I would hope that the Agri Environmental Schemes of the future would follow on from what we have accomplished because without the coming together of farmers no change can be achieved on the mountains. I would like to sincerely thank all who contributed in any way to the success of the project and also The Dept. Of Agriculture in Johnstown Castle for their help and support over the last five years.

Martin Shannon

Chairman

Blackstairs Farming Group

INTRODUCTION

The Blackstairs Farming Futures (BFF) Sustainable Farming Project in the Blackstairs Mountains is a European Innovation Partnership (EIP-AGRI) that seeks to add value to both the farming systems and biodiversity of marginal land.

The main objectives of this project are to:

- Develop a Results-Based Agri-Environment Payment (RPAB) scheme for upland habitats and commonage land.
- Develop an effective commonage governance model for Ireland.
- Encourage appropriate habitat management for upland biodiversity.
- Bring wider community engagement in the environment, culture, and tradition of farming the uplands.

These objectives would be achieved by rewarding participating landowners for good habitat condition and the payment for complimentary actions to improve habitat condition, such as bracken control, managed burning programs, and targeted fencing.

The expected biodiversity results of this EIP were improved quality of upland peatland habitats and their associated semi-natural habitats, improved water and soil quality, and the improvement of suitable habitat for upland birds such as red grouse (*Lagopus lagopus hibernicus*). The societal and economic benefits were expected to be improved upland farm viability, empowering upland farming communities to sustain their way of life, greater social cohesion, and the development of guidelines for working with commonage in Ireland.

RESULTS-BASED AGRI-ENVIRONMENTAL SCHEMES

Results-Based schemes are a new approach to rewarding farmers for managing their land favourably for biodiversity.

The key difference to previous schemes is that payments are based on measurable results, rather than carrying out generalised actions.

First, an ecological survey is carried out on a farmer's land and a score out of ten is assigned to the land. It is this score that determines the level of payment received. Each year, payments are also made available to carry out actions that could improve the score. This allows for cooperative management of the land and ensures that the work that is carried out is tailored to the specific needs of the land.

Ireland is a world-leader in the design of these schemes and CAP 2023-2027 is now incorporating the approach into target regions.

There has been an approximate 50% reduction in farm holders under the age of 44 in the Blackstairs Mountain area (Tubridy *et. al.*,2015). Recent farm viability indicates a high proportion of unsustainable farms in the Blackstairs area. The combination of an ageing farmer population and low farm incomes pose a threat to the achievement of the favourable status of the semi-natural habitats and associated species in the Blackstairs Mountains SAC. The project objective is to develop and trial innovative approaches to add value to the Blackstairs hill farming system while simultaneously improving habitat condition.

THE BLACKSTAIRS MOUNTAINS SAC

The Blackstairs Mountains SAC covers approximately 5000ha of upland habitats on the border of counties Carlow and Wexford. The SAC is primarily European dry heath (4030) and it contains 17% of Ireland's total dry heath habitat. Patches of Northern Atlantic wet heaths with *Erica tetralix* (4010) are also found throughout the range. Dense bracken is now taking over much of the heathland habitat due to a combination of inappropriate fire management and land abandonment. Scrub habitat, mostly consisting of European gorse (*Ulex europaeus*), is becoming dominant in patches on the lower to mid slopes and on commonages where grazing has ceased, immature woodland is beginning to form.

A recent biodiversity audit of the area classified the habitats as being in mostly good condition, but it is at risk from inappropriate fire regimes and land abandonment (Tubridy *et. al.*, 2015). Sheep grazing is the most common form of management, while cattle are used rarely. Overgrazing and bare peat is mostly a localised problem in the Blackstairs, however seasonal burning of the land is a severe threat and is contributing to erosion and habitat loss. Land abandonment is the perhaps the most significant threat to the heathland habitats in the Blackstairs Mountains, with only 53% of farms in the area having identified a successor (Tubridy & Gallagher, 2015).

There are 317 recorded archaeological sites in the region, with more likely to be either undiscovered or yet to be recorded (Ó Murchú, 2016). These range from neolithic monuments to 19th-century ruins and are in a wide range of condition. Cairns that are on recreational routes have suffered significant damage and alteration, while the more remote and inaccessible sites are comparatively untouched.

THE IMPORTANCE OF HEATHLANDS

A heathland is an area that is dominated by heather (sometimes called ling) and they often have a unique community of plants, birds and insects. They occur naturally on exposed upland areas where

trees find it difficult to grow. They require abundant rainfall and moderate temperatures, mostly provided for by our temperate oceanic climate. The nutrient poor acidic soils often prevent one species becoming dominant and favour specialists that are only found in these areas. The expansion of agriculture and the felling of forest expanded heathlands and so many of them today are semi natural. In these areas, the presence of humans and agriculture is a major factor in their survival.

Heathlands have a limited global distribution and are mostly found in the north-western fringes of Europe, with Ireland and Scotland being two of the main strongholds. They are estimated to cover 4% of the land in the EU and provide habitat for species such as red grouse, birds of prey, and important pollinators such as bees, butterflies, and moths. However, the extent of heathlands has been decreasing due to the expansion of forestry, development, and increased fires. The Blackstairs is a good example of heathland habitats. The predominant type is dry heath, with wet heath and blanket bog interspersed. A biodiversity audit in 2015 regarded the area as being mostly in favourable condition whereas nationally, the condition of dry heath is classified as Unfavourable-Bad. In the face of the decreasing area and quality of heathlands in the EU, it is imperative that we look after the heathlands of the Blackstairs.

WORKING WITH COMMONAGES

There are an estimated 4500 commonages in Ireland, covering approximately 430,000ha of land, much of which is located in the marginal lands of the uplands and coasts (Di Falco and van Rensburg, 2008). The majority (60%) of commonages in Ireland have been designated as protected areas under the Habitats Directive (NPWS, 2019).

Commonages, being marginalised land, often share similar difficulties. Low productivity and a reliance on agricultural subsidies are noteworthy discouraging economic factors, alongside the management difficulties such as unsuitable policy design, difficult terrain and an ageing farming demographic (McCarthy et al., 2018). The efforts of national agri-environmental schemes such as REPS and GLAS have attempted to redress the ecological and economic issues commonage farmers face. The schemes were perceived to have increased farm incomes, but the ecological condition of the Irish uplands and farmer knowledge on the issue remained poor and there is no significant relationship between REPS scheme farms and biodiversity values (Van Rensburg et al., 2009; van Rensburg and Mulugeta, 2016).

Creating management plans that balance agricultural and ecological needs can be a complex undertaking, requiring compromises and bespoke arrangements. Commonages have the additional difficulty of having multiple stakeholders with whom agreements must be made. Furthermore, where commonages fall under the protections of the Habitats Directive or Birds Directive, a conservation

management plan is often put in place with little landowner engagement. The first step in the BFF is to establish trust and communication between the landowners, state bodies, and the ecologist.

The BFF approach will facilitate the creation of Commonage Community Groups (CCGs). Each CCG will work with the project team to develop a program of works to improve both the biodiversity and agricultural value of their land.

Figure 2: Ballyglisheen Commonage Community Group with the Project Ecologist

PARTICIPATORY MAPPING

In 2019, the three Phase 1 commonages were invited to a participatory mapping workshop. The purpose of participatory mapping is to record a broad range of knowledge and perspectives with a spatial aspect. The three commonages were provided with an A0 colour satellite image of their land and were then asked to write, draw, and flag (with stickers) their vision for their hill and their knowledge of its history. Participants were asked to record anything they felt was of value to the history, culture, ecology, or agriculture as well as mark areas they felt needed works or improvements.

The workshop provided a deep level of knowledge for the members of the project who are not from the area or hill farmers themselves, and also helped to resolve conflicts early in the project. Each commonage group produced a map that helped trigger important discussions about future management and build trust between the project team and the shareholders. One shareholder remarked it was the first time in his life that someone had asked him his opinion on how the land

should be managed or explained to him why it was a Special Area of Conservation (SAC). These maps were used as a baseline for the development of the work programs.

These maps were digitised using GIS and are displayed in Appendix III.

SCORECARD DEVELOPMENT

To score the heathlands within the Blackstairs Mountains SAC, we chose to use a scorecard that had been used in the region previously (Appendix II). This was the FARM-ECOS scorecard, and it had been trialled on the three phase one commonages in 2018. The decision to use an existing card, rather than develop a new one, was made for the purposes of having a baseline score we could compare against. In a project where developing trusts with landowners is vital, we felt it prudent to be able to show whether two separate ecologists using the same card would produce the same score.

The commonages of Raheenkyle and Seskinamadra entered the project together. They are designated as two separate commonages, but the two sites border one another on the same hill and the shareholders are the same. Raheenkyle forms the south facing slope, while Seskinamadra forms the northern slope. We decided to score the two commonages together as one unit, as to score them separately would be paying the same landowners twice.

PHASE 1 SCORING METHODOLOGY

Whilst the scorecard was the same, we made alterations to the scoring methodology in year one. Rather than score the whole commonage with one scorecard, regardless of size, mixture of habitats, or variable condition, we chose to define five habitat assessment areas. These five areas would be scored individually and the average of the five would be the site score (Figure 3).

The five assessment areas were defined using aerial imagery. The ecologist would then walk a W-shaped ‘structured walk’, filling out the scorecard along the walk. The rationale for this adaptation was that heathlands are heterogenous landscapes, often containing multiple heathland, peatland, and grassland habitats. Taking an indicator such as the number of positive indicator species, one good patch of heathland may contain all the required species to score in the top category, but the rest of the hill may be in poor condition.

Figure 3: Assessment areas used for scoring Ballyglisheen Commonage in 2019

However, this approach was found to be flawed on two fronts. Firstly, the upland terrain does not always allow for free exploration and some assessment areas were found to be too dangerous to access once visited, or the structured walk meant multiple ascents and descents of the hillside. Secondly, the approach sent the wrong message to the landowners. Instead of focusing on the overall condition of the hill, they became fixated on the assessment areas. While the methodology eased sampling biases with the scorecard, it created new problems which were deemed to be more detrimental to the project aims.

PHASE 1 SCORES

The scoring in year one for the Phase 1 commonages matched the scores from the FARMECOS scorecard.

Table 1: Comparison scores between the Blackstairs and FARMECOS scorecard for the phase 1 commonages.

Commonage	Score (BFF)	Score (FARMECOS)
Ballyglisheen	6.1	6
Knockroe	7.2	7
Raheenkyle / Seskinamadra	4.3	4

The shareholders at Raheenkyle / Seskinamadra chose to appeal their score on the basis that one of the five selected assessment areas had been chosen and assessed erroneously. However, reassessing one area of the five would be unlikely to alter the average score enough for the next payment bracket. As a score of four is a non-payable score, the group was offered a payment for a score of 5 as a show of goodwill and compromise to keep them in the project.

SCORECARD REFINEMENT

Based on the findings of the first year, adjustments were made to the scorecard. The main change was to the drainage metric. In the first scorecard, any presence of drainage resulted in a penalty of 1.5 points. However, at Raheenkyle historical drains are now revegetating and the categories do not quite capture the complexity. To better reflect the range of condition, the metric was split into five categories from three (Fig 4).

Hydrological conditions		
High	Medium	Low
-15	-5	15

Hydrological conditions				
Significantly altered	Moderately altered	Slightly altered	Moderately intact	Intact
-15	-10	-5	5	15

Figure 4: Refined scorecard metrics for the Blackstairs scorecard

PHASE 2 SITE SELECTION

In Phase 2, six additional commonages were added to the scheme. These sites were selected based on the strength of the commonage group's application and the ecological value of the site. Ecological value was determined using a ranking system based on previous habitat assessments (Tubridy *et. al.*, 2015) and previous commonage condition data carried out by NPWS (Bleasdale *et. al.*, 2009). This was combined with landscape ecology metrics to create a ranking score for each candidate commonage.

Table 2: Ecological ranking assessment used in the selection of Phase 2 commonages. The selected commonages for phase 2 are highlighted.

COMMONAGES	Size (ha)	Area Score	Habitat Score	Location	TOTAL
Cloroguebeg	305	4	19.5	4.5	28
Ballycrystal	315	4	16	5.5	26
Craan	475	4	18.75	2.5	25
Slievegar	41	1	18	4	23
Coonogue	121	2	14.625	4.5	21
Bantry	392	4	9	6	19
Rathgeran	47	1	11.375	6.5	19
Walshestown	123	2	11.25	5	18
Cullentragh	47	1	12	4	17
Gowlin	30	1	14	2	17
Crannagh/Rathanna/Raheen	197	3	9	3.5	16
Ballybeg Big	118	2	10	2	15
Aughnaylear	112	2	8	2	13
Blackstairs	215	3	6	3.5	13
Raheenleigh	66	2	10.5	0	13
Coolasnaughta	93	2	6	4	12
Knockmulgurry	197	3	4	5	12
Dranagh	58	2	6	2	10
Mandoran	43	1	4	5	10
Ballycrinnigan	222	3	4	1	9
Deerpark	76	2	8	-4	6
Kiltealy Hill	13	1	0	-2	-1

Area score was determined by site size. The habitat score was calculated from the mixture of habitats within the commonage, with heathland and peatland being scored higher than grassland and dense bracken. The final contributing factor to the total score was site location. This incorporated an assessment of the land use surrounding the commonage. Sites with high connectivity to other heathland habitats scored higher than sites surrounded by forestry or improved agricultural grassland. As the focus of this project was to maintain and improve heathland habitats, we aimed to include sites with a range of starting condition scores, rather than just the highest. The selected sites for Phase 2 are shown in Figure 5.

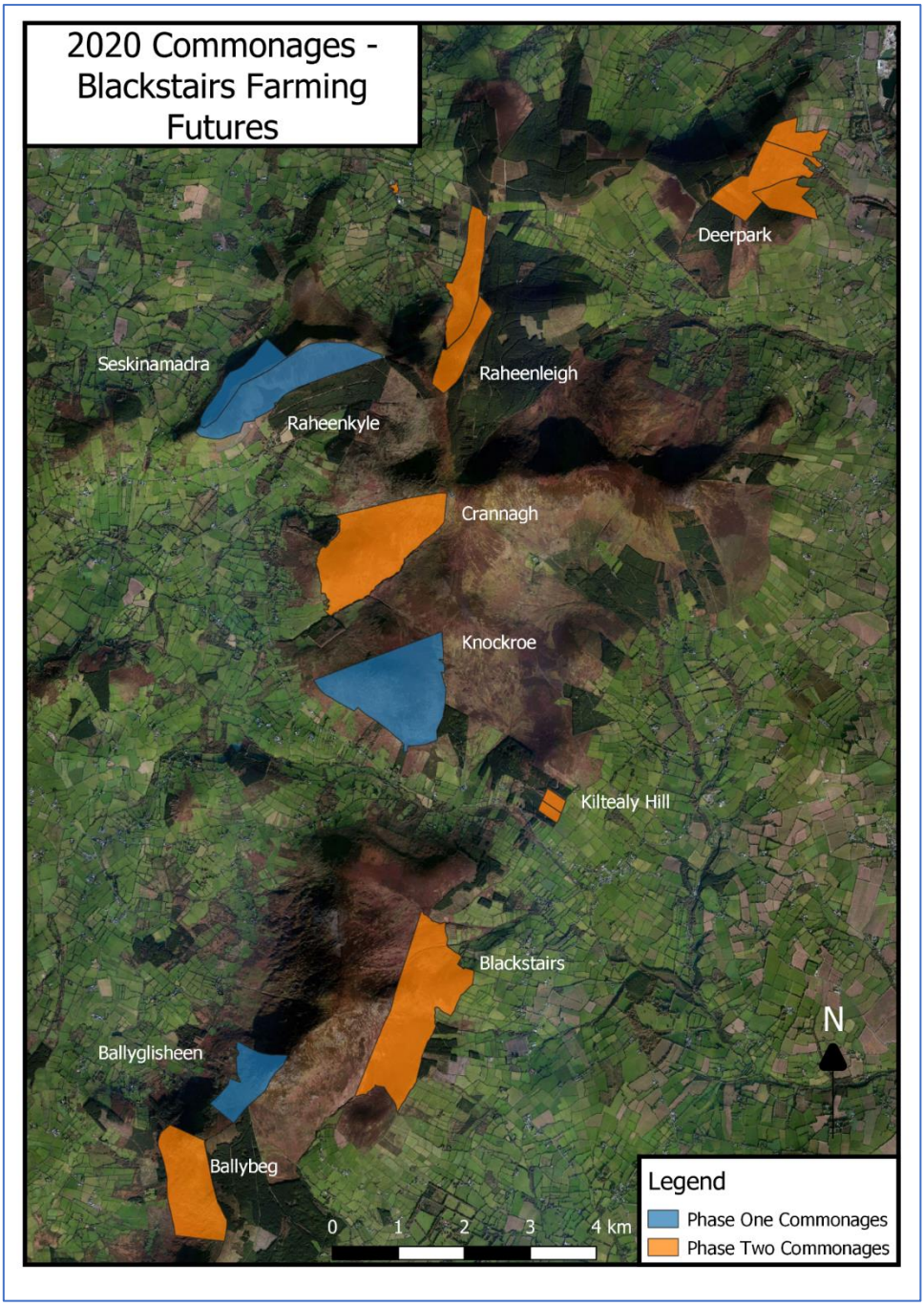


Figure 5: Selected commonages for phase 2 of the Blackstairs Farming Futures Project

PHASE 2 SCORING

In 2020, the scoring methodology changed to a single walkover using the refined scorecard (Appendix I). However, the addition of six new commonages brought unique challenges. The three Phase 1 commonages were majority heathland habitats, but Ballybeg and Deerpark had areas where heathland vegetation was succeeding to scrub and woodland. Another complication was the lower slopes of Raheenleigh, where the mixture of wet grassland and dry heath was approximately even.

ADAPTATIONS FOR SPECIFIC CASES

The western edge of Ballybeg forms the foot of the hill, and it contains a good mix of hawthorn, blackthorn, mountain ash, and birch trees. While some of these species are included in the scrub category and would typically cause a site to lose points, native upland forest should not be discouraged even when the heathland habitats are the priority. In this regard, we chose to score the lower slope of Ballybeg using the Pearl Mussel Project's scrub and woodland scorecard, while the rest of the hill was scored with the BFF heathland scorecard.

Similarly, we tested a wet grassland scorecard and a heathland scorecard on the lower slopes of Raheenleigh. The low altitude of this section of the hill favours grass over heather and is unlikely to ever become dominated by heath vegetation.

The biggest challenge was posed by Deerpark, which is outside of the Blackstairs Mountains SAC and is three connected commonages. While Raheenkyle and Seskinamadra were similar in habitat composition, Deerpark can reasonably be separated into four habitat units, making a single score with one scorecard impossible. In 2020, only one area of Deerpark was scored.

CULTURAL HERITAGE BONUS

To encourage landowners to see the value of cultural heritage on their land, in 2020 we decided to include a bonus score for its preservation. As our team lacked the expertise to safely protect them, we instead chose to reward 0.5 bonus points to sites that had cultural heritage features that were not suffering ongoing damage. The bonus point distinction was necessary, to prevent interference with the tracking of ecological improvements.

COMMONAGE PROGRESS REPORTS

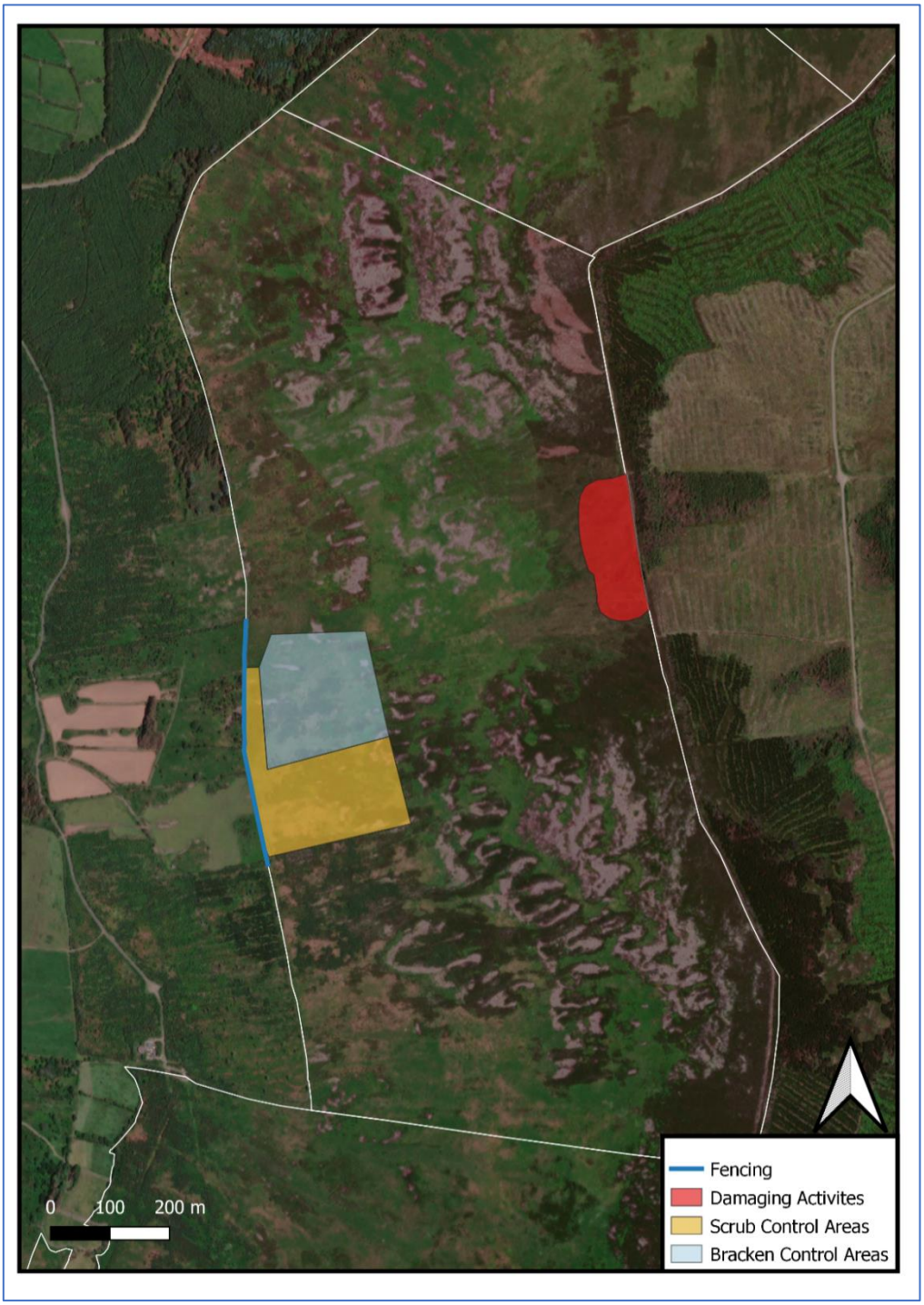
BALLYBEG

Ballybeg joined the project in 2020. The lower slopes have areas of dense gorse and scattered pioneer woodland, while the mid-slopes are covered by dense bracken with dry heath underneath. The density of the bracken cover is thick, and some woodland indicators have established. The upper slopes are a mixture of exposed rock, dry heath, and wet heath, including a pond on the eastern edge.

Site	Year 2 Score	Year 3 Score	Year 4 Score
Ballybeg	7.5	8	8

Ballybeg is in good condition overall but is moving towards upland forest. Grazing pressure is light, and so human intervention is needed to control the spread of scrub and bracken. In 2020, the site lost

0.5 points due to the extent of gorse in the southwest of the site. However, the work program for the commonage community group focused on reducing this cover, as well as clearing areas of bracken to increase grazing value and recover heathland vegetation. This was successful in earning Ballybeg a full point (-0.5 to 0.5 for scrub cover), however in 2021 the area became targeted by off-road vehicles, which has destroyed the wet heath and pond on the upper slopes.



BALLYGLISHEEN

Ballyglisheen is a close neighbour of Ballybeg and shares a similar composition of habitats. Dense bracken covers much of the site, though dry heath with a good variety of structure and ages begins to dominate with altitude. The upper eastern slopes contain large areas of exposed rock, and the southern extent features an area of undamaged wet heath. Ballyglisheen also contains valuable historical and cultural monuments.

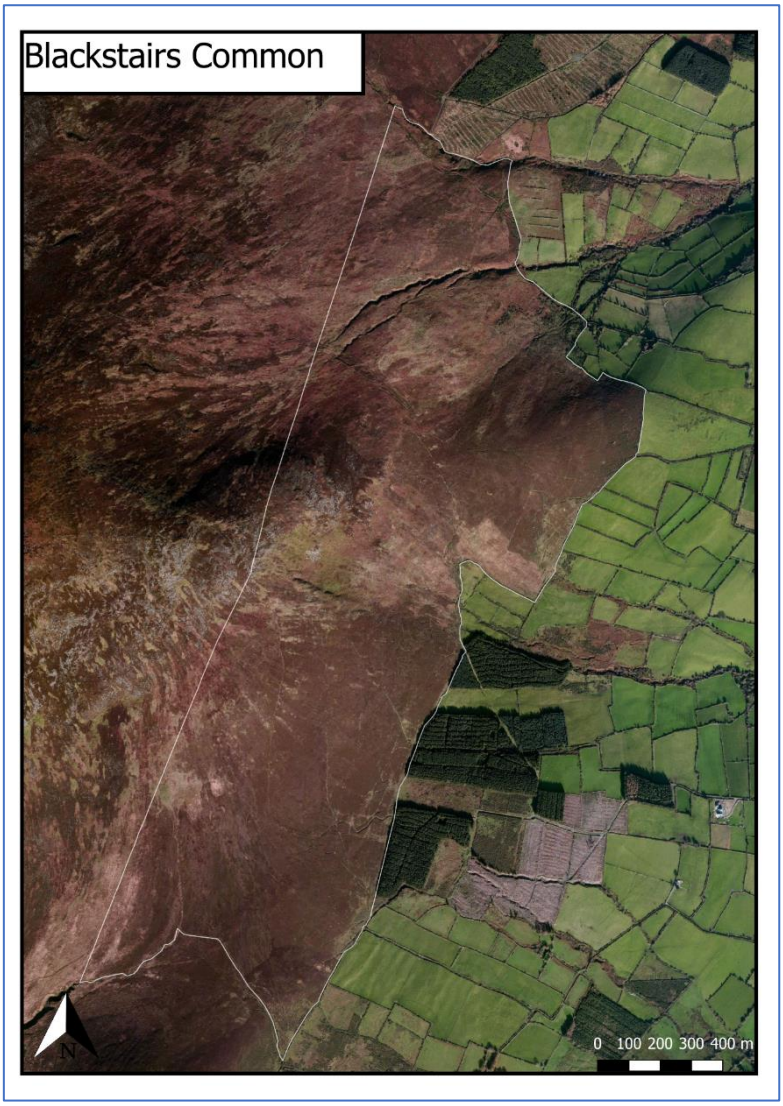
Site	Year 1	Year 2	Year 3	Year 4
Ballyglisheen	6.1	7.5	8	8

Ballyglisheen's CCG began an extensive bracken control program in 2019, which has been followed by sheep grazing. The flock did not require any encouragement to explore the newly opened areas of the

commonage and moved into the new grazing independently. While cattle would be more effective at bracken control, the reduction in bracken regrowth has been significant. Despite the proximity to Ballybeg, off road vehicles have not entered this commonage. The CCG also rebuilt stone walls along a popular hiking trail that had collapsed over time.

BLACKSTAIRS

Blackstairs commonage is the largest commonage in the scheme and the only one with an east facing aspect on the Wexford side of the Blackstairs SAC. It has not been stocked in over 30 years and any grazing that occurs here is from a herd of wild goats in the area. This commonage features a large extent of undisturbed dry heath with two areas of wet heath. Some of the grasses are growing rank, and there are occasional patches of degenerative heather, but there is very little encroachment of scrub or bracken.



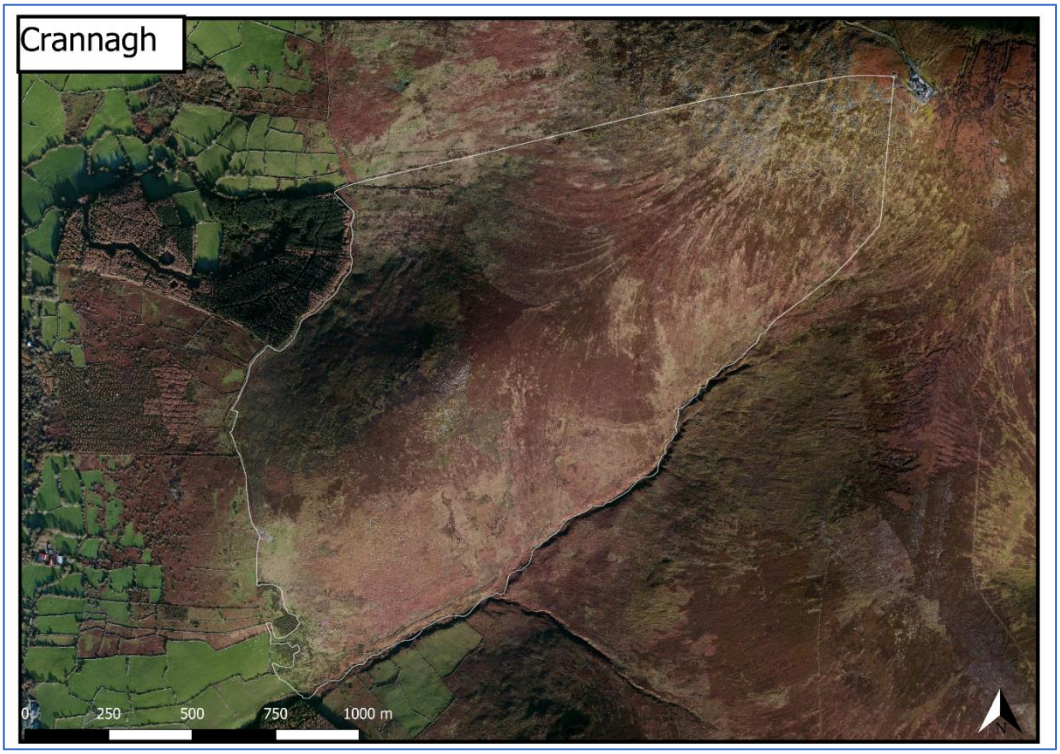
Site	Year 2	Year 3	Year 4
Blackstairs	7.5	7.5	7.5

Blackstairs score remained unchanged throughout the three years. The main sources of points loss are grazing levels and vegetation structure. Parts of the site are developing rank litter of purple moor-grass (*Molinia caerulea)*, which is overtopping the heather. The focus of the work program for this site has been on fencing the lower slopes to allow the CCG to reintroduce a communal sheep flock from a traditional upland breed. However, COVID delays prevented the organisation of this. The commonage

boundaries with the lower slopes are now fenced and the CCG intends to proceed with their plans to reintroduce a flock to the hill after the Blackstairs project has finished.

CRANNAGH

Crannagh is located on the west side of the northern extent of the Blackstairs Mountains SAC and it is the only hill in the project that is grazed by a mixture of sheep and cattle. The cover of bracken and scrub is limited to small patches and overall, the heathland vegetation is in good condition. There is some peat erosion occurring on the northern slope, which is more sheltered and is favoured by livestock. In 2020, a large fire started on the east side of Mt. Leinster, which spread through the eastern side of Crannagh causing widespread damage before the site was scored.



Site	Year 2	Year 3	Year 4
Crannagh	7.5	8.5	9

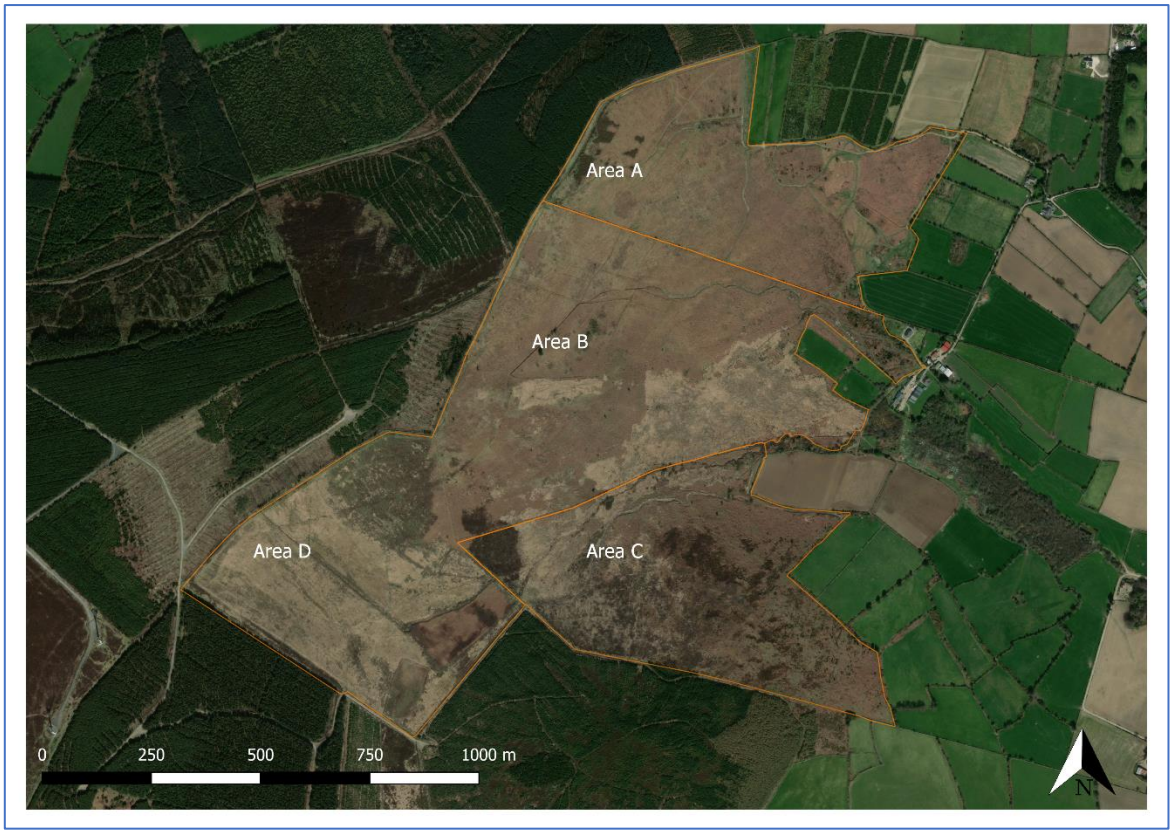
Crannagh's score improvement was primarily due to the recovery of the burn scar. The fire did not burn deep into the peat layer and the area recovered quickly. Due in part to the high score and that the CCG decided that they did not have the capacity to carry out a bracken control program, no

ecological works were carried out on Crannagh, and the CCG instead focused on access clearance and fencing to facilitate the current grazing regime.

DEERPARK

Deerpark is three separate commonages consisting of the same shareholders. The three entered the scheme as one commonage, but this posed unforeseen difficulties for the project. Deerpark is outside of the Blackstairs Mountains SAC and was not included in the biodiversity audit in 2015. Lacking a baseline habitat assessment, it was not possible to prepare alternative scoring methods such as that which was applied to Ballybeg or Raheenleigh.

Due to these difficulties, in the first year only Area D, marked below, was scored. Deerpark has four distinct habitat areas.



Site	Year 2	Year 3	Year 4
Deerpark	3.5	5*	5.6

Descriptions of each area are in Table 3.

Table 3: Habitat area descriptions at Deerpark

Area	Description
A	Scrub habitat, transitioning from grassland to woodland. Little evidence of heath, aside from occasional bilberry. Gorse, bramble and bracken dominate, with scattered native trees.
B	Heathland, now dominated by dense bracken. Mix of heathers and good cover of bilberry below, though woodland flora is emerging. Notable patches of wet heath, with sphagnum, bog cotton, bog asphodel, and bog myrtle. Open flowing streams with a valley lined by willow and hawthorn.
C	Dry heath. Higher hillside with dense heather and bilberry cover. No recent burn history. A full variety of heather growth stages with occasional patches of exposed rock.
D	Undergrazed heath now becoming rank with purple moor-grass. Large drains and recent fire damage. Some bracken encroaching and conifers self-seeding.

The score improvement from year 2 to 3 at Deerpark is mostly attributed to the change in scoring methodology. In 2020, all four areas were scored using an appropriate scorecard. Area A used the scrub and woodland scorecard from the Pearl Mussel Project, while the BFF card was applied to the remaining three area. An average score of the four was then used as the site score.

Deerpark has carried out exemplary work on bracken control, establishing plots where different methods were applied. Hand-cutting, rolling, and spraying were used in separate areas and the regrowth will be monitored beyond the end of this project.

There is keen interest among the CCG to return parts of Deerpark to native upland forest. While this was outside the scope of our project, natural succession aided by tree planting would likely be far more ecologically beneficial and economical than trying to revert the whole hill to heathland. Areas C and D will likely remain as heath due to their elevation and exposure, but Areas A and B are both good candidates for upland forest regeneration.

KILTEALY HILL

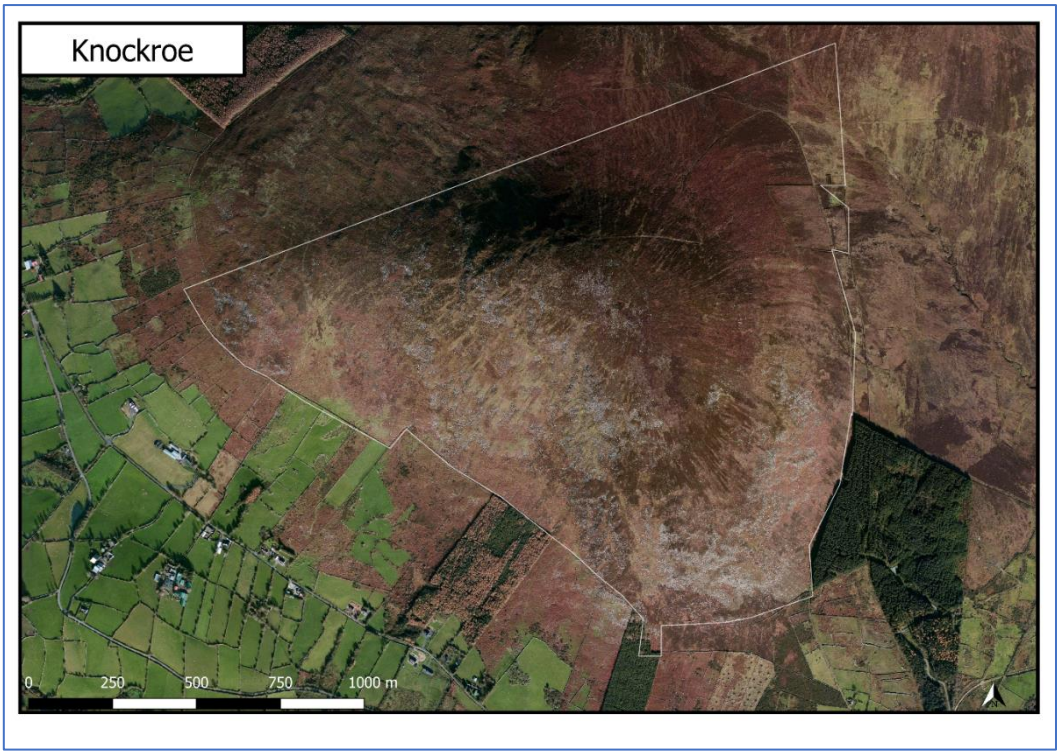
Kiltealy features 13ha of dense bracken that is transitioning to woodland. Beneath the bracken, there is still heather and bilberry, but woodland herbs are common. Hawthorn, blackthorn, birch, and conifers have established themselves in the absence of grazing and management while gorse and bramble form thick borders to the site.

Site	Year 2	Year 3	Year 4
Kiltealy Hill	2	3	4.5

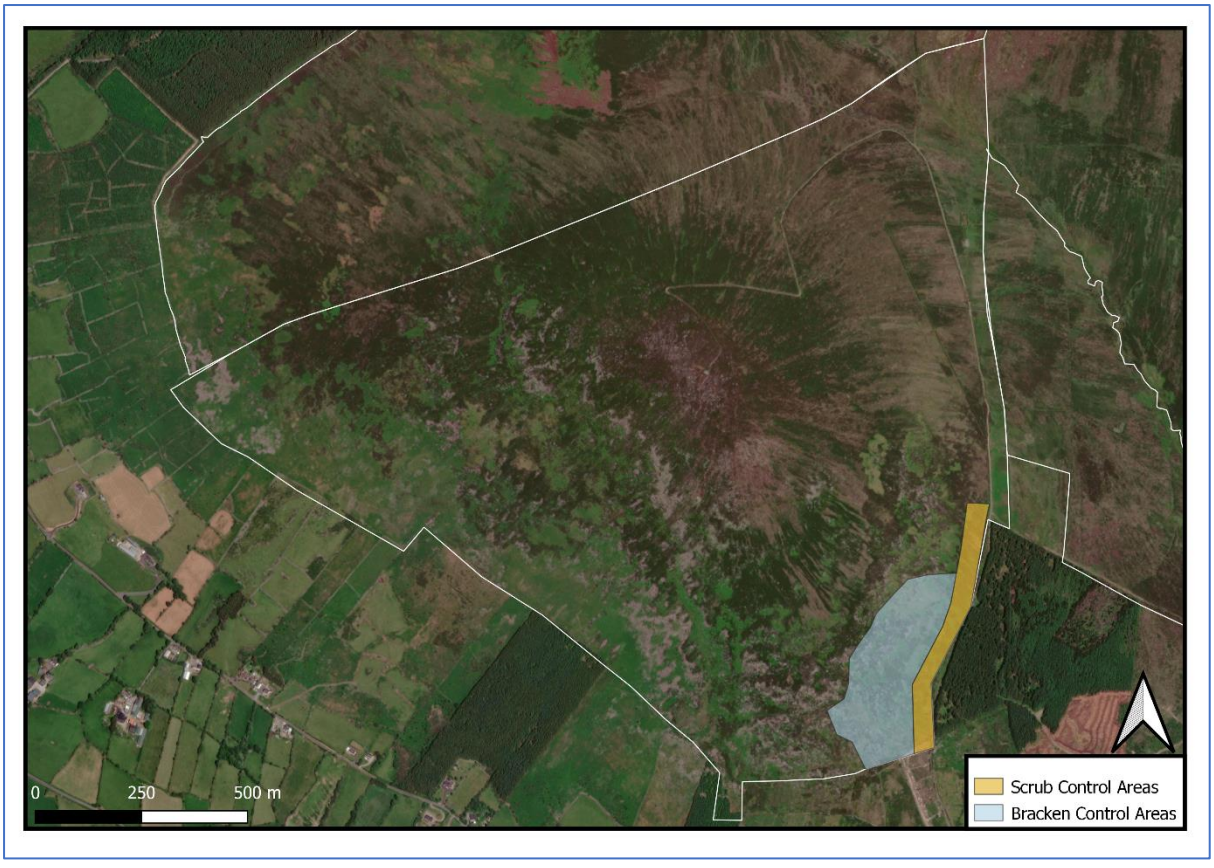
Kiltealy Hill has only three shareholders, but agreement could not be found with one member, making the implementation of a work program for Kiltealy a difficult task. Actions were limited to fencing until 2022 when some bracken and gorse could be cleared, and sheep reintroduced. The scoring in year 3 and 4 was done earlier in the year and so more of the site was accessible before the bracken took over. This led to the recorded of more positive indicator species and improved the site score.

KNOCKROE

Knockroe is predominantly a rocky dry heath in good condition. Grazing levels and exposure have maintained a mixture of heather structures and a well-developed herb layer. Bracken cover is limited to the south and south eastern slopes, but the rocky, thin soils prevent the bracken from becoming tall and shading out the understory. The northern stretch towards Mt. Leinster contains wet heath that is largely undisturbed and in good condition. The main pressures at Knockroe are recreation and burning. The summit and paths have signs of erosion and fire damage. though the fire damage is light and recovering. While soil erosion is expected at this elevation, a combination of tourism pressure and previous burns could exacerbate it in the future.



Site	Year 1	Year 2	Year 3	Year 4
Knockroe	7.2	8	8	8.5



The high scores at Knockroe focused the CCG on maintenance rather than improvements. The CCG carried out bracken cutting on the lower slopes and removed self-seeding conifers from the plantation in the southeast. The score improved mostly due to the recovery of the burn scar on the summit.

RAHEENKYLE / SESKINAMADRA

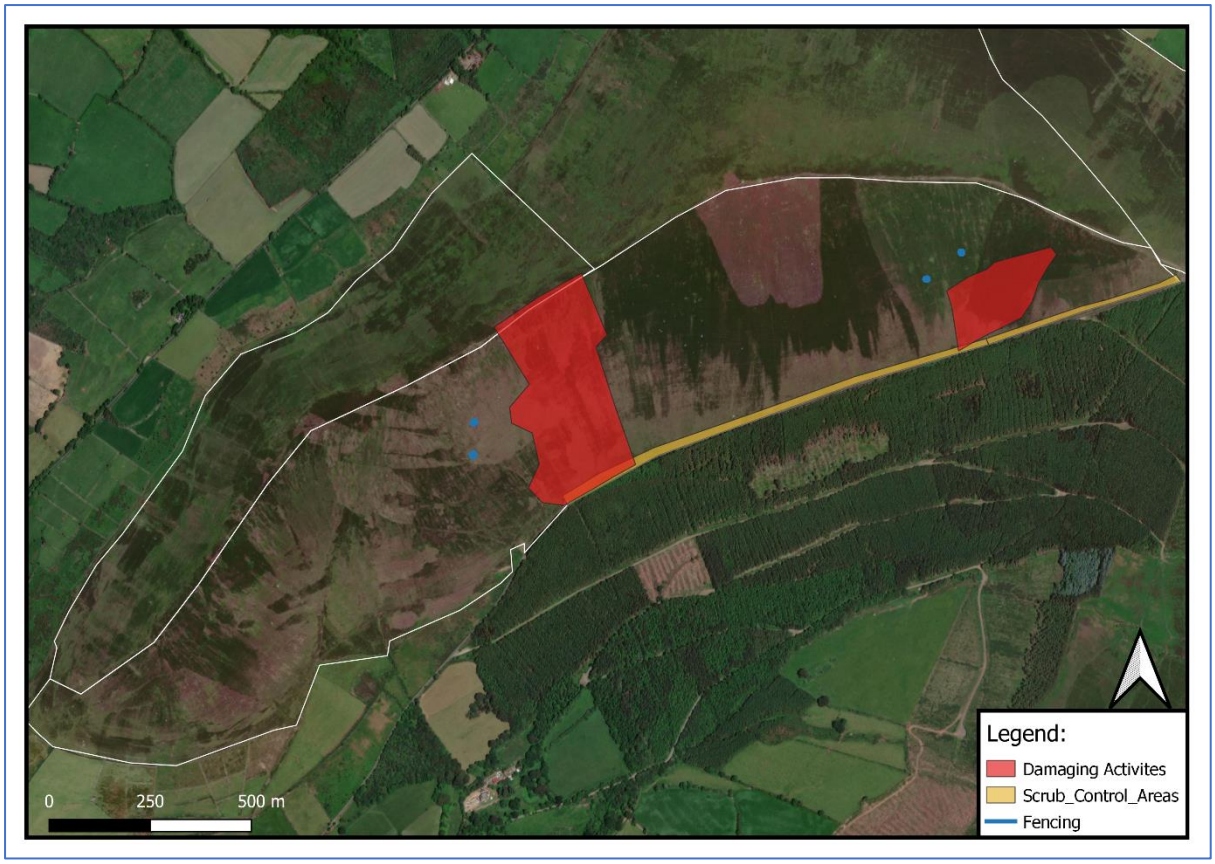
Raheenkyle and Seskinamadra are two separate commonages that consist of the same shareholders. As such, they entered the program as one. Both areas are grazed dry heath and so were scored the with one scorecard. Raheenkyle is south facing and had historic drains cut through it, which are now revegetating, but the site remains very dry. Bryophyte cover is low and bare soil is commonplace. This is due to heavy grazing, recreation pressures, and extensive burning practices. There are parts of Raheenkyle where heath vegetation is now absent and soil erosion is occurring. Seskinamadra on the northern side of the hill is in better condition, though grazing pressure and fires are still a concern. Natural springs have created small patches of wet heath, containing bog cottons (*Eriophorum spp*.) and sphagnum mosses.

Site	Year 1	Year 2	Year 3	Year 4
Raheenkyle / Seskinamadra	4.3	5	4*	3

This site is the only commonage in the program not to have shown any improvement over the four years. The increase in score in year 2 was due to the adaption of the scorecard methodology, which better reflected the state of drainage on the site. The score then dropped in years 3 and 4.

The CCG were unenthusiastic to implement any reduction in grazing until year 3 and instead focused on access clearance, fencing, and removal of self-seeding conifers. In year 3, the group erected 4 10X10m grazing exclusion plots to see how the vegetation would grow in the absence of grazing. However, these plots were vandalised by herbicide. The CCG removed stock from the hill in the winter of 2021, which may have reduced the amount of erosion, but this was unlikely to improve the vegetation growth. The site has a long history of frequent fires, but in 2021, during the COVID lockdowns, the Nine Stones car park become a gathering point for anti-social behaviour. At least six large fires burned despite the CCG organising a fire watch. Based on this, the BFF operational group decided to reward the CCG a payment on their previous score, as the damage was out of their control.

However, at least two more large fires burned in 2022, which due to their start locations were unlikely to have been caused by visitors or vandalism. No compensatory measures were given, and the site was scored in line with the scorecard result. The issues at Raheenkyle are attributable to problem shareholders and external anti-social behaviour, both of which are difficult to solve with ecological-focused efforts. Raheenkyle is at severe risk of soil erosion unless there is a reduction in grazing pressure and fire management.



RAHEENLEIGH

Raheenleigh is split into two areas by the road to the Nine Stones car park. The southern part is at higher elevation and is lightly grazed dry heath, whereas the northern section slopes away to improved agricultural fields and contains a mixture of wet grassland and dry heath. Most of the grazing pressure is on the lower slopes. Raheenleigh suffers from some anti-social behaviour, though not to the extent of its neighbour at Raheenkyle. Occasional attempts at burning have been spotted along the roadside and a stolen car was burned out and rolled off the road, but the damage is sparse and infrequent.

Unfortunately, after the scoring in 2022, a large fire destroyed much of the southern slope where the best quality heathland vegetation was found. The timing of the fire and the ignition point would suggest it was deliberately started, and unlikely by anti-social behaviour.

Site	Year 2	Year 3	Year 4
Raheenleigh	7	7	7

The score remained unchanged at Raheenleigh throughout the project as the sources of points loss were difficult to address with actions. The wet grassland contains soft rush and patches of bare soil, both of which caused a loss of 0.5 points each. Further points were lost for damaging activities, but these are outside of the CCG's control. The CCG focused on litter picks, community engagement, and access management through the removal of gorse.


0
250
500 m
Scrub Control Areas

PHASE 3 COMMONAGES – TRAINING

In the final year of the project, four commonages entered the scheme for the purposes of training and capacity building in the Blackstairs community. These commonages formed a community group and were introduced to the mechanisms of RBAP systems to prepare them for the rollout of ACRES in 2023.

These sites were not scored by the project ecologist. Instead, training on the use of ecological scorecards was provided to Declan Dempsey, a qualified agri-advisor. The four commonages were visited by Declan and given a provisional score, followed by a meeting with the project ecologist to review the score decisions and site photos. The determined score was used as a provisional guide for the newly formed CCGs to illustrate how score payments and complimentary measure payments are based upon ecological condition.

The phase 3 commonage scores are shown in Table 4.

Table 4: Phase 3 commonage provisional scores

Commonage	Score
Coonogue	7.5
Drannagh	6.5
Rathgeran	5.5
Walshestown	5

LESSONS LEARNED / FUTURE RECOMMENDATIONS

The Blackstairs Farming Futures Project faced significant challenges, both from local landowner issues and the impacts of COVID-19. Despite these challenges, the group managed to achieve an improvement of biodiversity scores on eight of the nine participating commonages, while incentivising the continuation of upland management. The key lessons learned are summarised in Table 5.

Table 5: Key lessons learned in the Blackstairs Farming Futures Project

Positives

- Hill farmers in the Blackstairs are willing and able to work together to improve their shared land.
- Forming Commonage Community Groups (CCGs) can create a powerful workforce to carry out conservation work in difficult terrain.
- Bracken control with hand tools and followed up by sheep grazing can be an effective solution to excessive bracken cover, as evidenced at Ballyglisheen and Deerpark. Cattle remain the better choice, but many hill farmers in this region are reticent to place cattle on the hills.
- Knowledge share between ecologists and hill farmers is best done in the field. Presentations and meetings were found to be of limited value, but walking the land together built trust and shared interests in both agriculture and biodiversity.
- Participatory mapping is an effective tool to get people talking about their shared futures and foster cooperation.

Negatives

- Better balance needs to be maintained in the governance of a project. One commonage was overrepresented on the operational group, and decisions could be skewed in their favour.
- NPWS representation on the operational group is vital. The loss of the NPWS representative led to major challenges in obtaining permissions to carry out work in an SAC.
- Influential individuals in the community are key to the success or failure of locally led projects. A hill farmer is far more likely to listen to another hill farmer than an outside expert, and so identifying local 'champions' early will have a major influence the outcome of a project. Similarly, those who are negatively disposed to project actions can cause severe difficulties.
- The loss of a full-time project manager led to organisational problems and communication difficulties between project partners and the CCGs.

FINANCIAL STATEMENT

BLACKSTAIRS FARMING FUTURES EIP

FINANCIAL REPORT

It was agreed that the €1m of the €1.5m allocated to the BFF would be ring fenced for payments to the commonage holders.

The scheme was implemented in 3 phases over 4 years.

Phase 1. Involved 3 commonages at a payment rate of €3500 /share holder (This rate remained for the duration of the scheme).

Phase2. Involved the addition of 6 new commonages at a reduced payment of €2500 /shareholder. (The reduced payment allowed for more participation in the scheme).

Phase 3. The final year, 4 more commonages were involved at the payment rate of €2500 /shareholder.

€1.022184m was paid to 113 commonage shareholders on 13 commonages over the 4 years of the scheme.

€464,057 was the cost of administrating the scheme.

€13,759 is the balance remaining.

Financial Controller.

Peter Rose.

REFERENCES

Bleasdale, A., 2009. Commonage condition spatial data. NPWS. Unpublished data.

Di Falco, S., Rensburg, T.M. van, 2008. *Making the Commons Work: Conservation and Cooperation in Ireland*. Land Econ. 84, 620–634. https://doi.org/10.3368/le.84.4.620

McCarthy, J., Bonnin, C., Meredith, D., 2018. *Disciplining the State: The role of alliances in contesting multi-level agri-environmental governance*. Land Use Policy 76, 317–328. https://doi.org/10.1016/j.landusepol.2018.04.049

Ó Murchu, S., 2016. *The Blackstairs Mountains, South East Ireland; Investigating the Archaeological Potential of an Understudied Upland Landscape*. University College Dublin (Ireland).

Tubridy, M., Gallager, C., 2015 *Developing a case for a Locally-Led Agri-Environment Scheme for the Blackstairs*. Unpublished report. 2015. Blackstairs Farming Group.

Tubridy, M., Iremonger, S., Hickey, B., O'Hanrahan, B., 2015. *Blackstairs Habitat Mapping and Biodiversity Audit 2015: A report for the Blackstairs Farming Group*. Unpublished Report. 2015. Blackstairs Farming Group.

Van Rensburg, T.M., Mulugeta, E., 2016. *Profit efficiency and habitat biodiversity: The case of upland livestock farmers in Ireland*. Land Use Policy 54, 200–211. https://doi.org/10.1016/j.landusepol.2016.01.015

Van Rensburg, T.M., Murphy, E., Rocks, P., 2009. *Commonage land and farmer uptake of the rural environment protection scheme in Ireland*. Land Use Policy 26, 345–355. https://doi.org/10.1016/j.landusepol.2008.04.002

APPENDIX 1: BLACKSTAIRS FARMING FUTURES SCORECARD

BFF HEATHLAND SCORECARD

SITE: **ASSESSOR:** **DATE:**

Vegetation Structure			
Bad	Poor	Moderate	Good
0	5	10	15

Bryophyte & Lichen Cover		
<10%	10-25%	>25%
0	5	10

Encroaching Scrub			
<10%	10 – 25%	25 – 50%	>50%
5	-5	-10	-15

Bracken Cover			
<10%	10-25%	25-50%	>50%
0	-5	-10	-15

Positive Indicator Species – % Cover			
<10%	11-25%	26-50%	>51%
0	10	15	20

Positive Indicator Species - Number			
<4	4-6	7-9	10+
0	10	15	20

Negative Indicator Species – % Cover				
<5%	5-10%	11-25%	>26-50%	>50%
0	-5	-10	-15	-20

Hydrological Conditions				
Significantly Altered	Moderately Altered	Slightly Altered	Moderately Intact	Intact
-15	-10	-5	5	15

Grazing level				
Heavily Over/Under Grazed	Moderately Over / Under Grazed	Mixture of over / under grazing	Moderately well grazed	Well grazed
-15	-10	0	10	15

Bare Soil / Erosion			
Negligible	Low	Medium	High
0	-5	-10	-15

Burning Evidence		
None/ Low	Medium	High
0	-5	-15

Disturbance / Damaging Activities		
None / Low	Moderate	Severe
0	-5	-15

Bonus Point

Cultural / Archaeological Features		
None / Damaged	Present	
0	5	

List of positive indicators		
Ling	*Calluna vulgaris*	
Bell heather	*Erica cinerea*	
Bilberry	*Vaccinum myrtillus*	
Western Gorse	*Ulex gallii*	
St Dabeoc's Heath	*Daboecia cantabrica*	
Crowberry	*Empetrum nigrum*	
Bearberry	*Arctostaphylos uva-ursi*	
Cowberry	*Vaccinum vitis-idaea*	
Hazel, Juniper, Blackthorn, Burnet rose, Bramble	*Corylus avellana, Juniperus communis, Prunus spinosa,Rosa pimpinellifolia, Rubus fruticosus agg.* ***(IF ALL TOGETHER ARE LESS THAN 10 %)***	
Cross-leaved Heath	*Erica tetralix*	
Dwarf Willow	*Salix herbacea*	
bog asphodel	*Narthecium ossifragum*	
Bogbean	*Menyanthes trifoliata*	
Sundew	*Drosera*	
Bog-cottons	*Eriophorum spp.*	
Sedges	*Carex spp.*	
Deergrass	*Trichophorum caespitosum*	
Heath Bedstraw	*Galium saxatile*	
Tormentil	*Potentilla erecta*	
Lousewort	*Pedicularis sylvatica*	
Sphagnum (moss)	*Sphagnum spp.*	
Lichens	*Cladonia spp.*	

List of Negative Indicators		
Rhododendron	*Rhododendron ponticum*	
White Clover	*Trifolium repens*	
Soft Rush	*Juncus effuses*	
>10% of the following ->	*Ulex europaeus, Prunus spinosa, Rubus fructicosus, Corylus avellane, Juniperus communis, Rosa pimpinellifolia*	
Nettle	*Urtica dioca*	
Sitka Spruce	*Picea sitchensis*	
Japanese Knotweed	*Fallopia japonica*	
Other		

APPENDIX 2: FARMECOS SCORECARD

HEATHLAND AND PEATLAND SCORECARD **[FARMECOS PROJECT]**

Parcel ID:		LPIS No:		Date:	
Field ID:		Land owner		Surveyor:	

Structural condition (MAX = 30)

1. Vegetation structure			See "Variables description" sheet for more detailed information
Poor	Moderate	Good	
0	7	15	

2. Encroaching scrubs			
< 10 %	10 - 25 %	25 - 50 %	> 50 %
5	-5	-10	-15

3. Bracken cover			
< 10 %	10 - 25 %	25 - 50 %	> 50 %
0	-5	-10	-15

4. Broyophytes and lichens cover		
< 10 %	10 - 25 %	25 - >50 %
0	5	10

Ecological significance and condition (MAX = 70)

5. Positive indicators (cover)				
< 5 %	6 - 10 %	11- 25 %	26 - 50%	> 51 %
0	0	10	15	20

6. Nº of Positive flora sps			
< 4 sps	4 -6 sps	7 - 9 sps	10 +
0	10	15	20

List of positive indicators		
Ling	*Calluna vulgaris*	
Bell heather	*Erica cinerea*	
Bilberry	*Vaccinum myrtillus*	
Western Gorse	*Ulex gallii*	
St Dabeoc's Heath	*Daboecia cantabrica*	
Crowberry	*Empetrum nigrum*	
Bearberry	*Arctostaphylos uva-ursi*	
Cowberry	*Vaccinum vitis-idaea*	
Hazel, Juniper, Blackthorn, Burnet rose, Bramble	*Corylus avellana, Juniperus communis, Prunus spinosa,Rosa pimpinellifolia, Rubus fruticosus agg.* ***(IF ALL TOGETHER ARE LESS THAN 10 %)***	
Cross-leaved Heath	*Erica tetralix*	
Dwarf Willow	*Salix herbacea*	
bog asphodel	*Narthecium ossifragum*	
Bogbean	*Menyanthes trifoliata*	
Sundew	*Drosera*	
Bog-cottons	*Eriophorum spp.*	
Sedges	*Carex spp.*	
Deergrass	*Trichophorum caespitosum*	
Heath Bedstraw	*Galium saxatile*	
Tormentil	*Potentilla erecta*	
Lousewort	*Pedicularis sylvatica*	
Sphagnum (moss)	*Sphagnum spp.*	
Lichens	*Cladonia spp.*	

7. Negative indicators (cover)				
< 5 %	6 - 10 %	11 - 25 %	26 - 50 %	> 51 %
0	-5	-10	-15	-20

8. List of negative indicators		
Rhododendron	*Rhododendron ponticum*	
White clover	*Trifolium repens*	
Soft Rush	*Juncus effusus*	
>10 % occupied by shrubs in the following list	*Ulex europaeus, Prunus spinosa, Rubus fruticosus, Corylus avellana, Juniperus communis, Rosa pimpinellifolia.*	
Nettle	*Urtica dioica*	
Sitka Spruce	*Forestry plantation escapes*	
Japanese Knotweed	*Fallopia japonica*	

9. Wet features and drainage impact			
Low	Medium	High	See "Variables description" sheet for more detailed information
15	-5	-15	

10. Grazing level			
Sub-optimal grazing 1:	Sub-optimal grazing 2:	Levels just above or below optimal	Optimal grazing
-15	-10	0	15
See "Variables description" sheet for more detailed information			

11. Bare soil and erosion			
Negligible	Low	Medium	High
0	-5	-10	-15

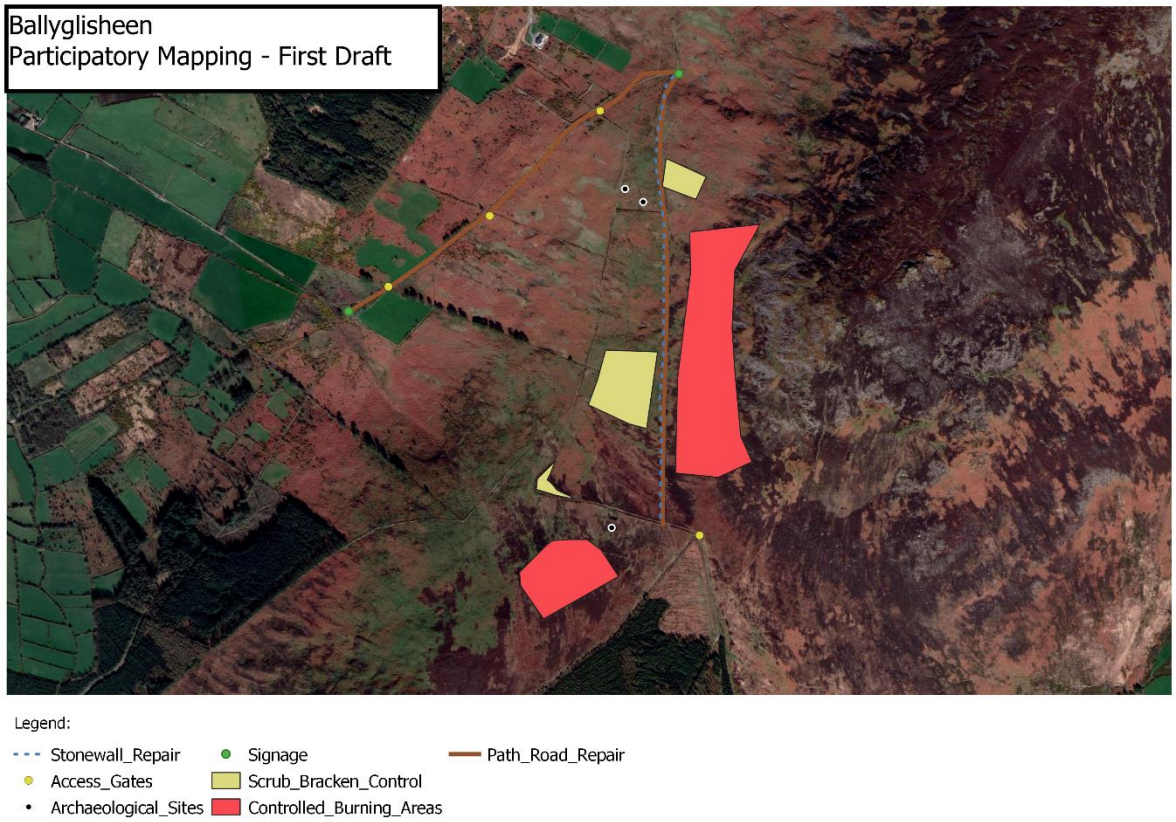
12. Burning evidence		
None/low	Medium	High
0	-5	-15

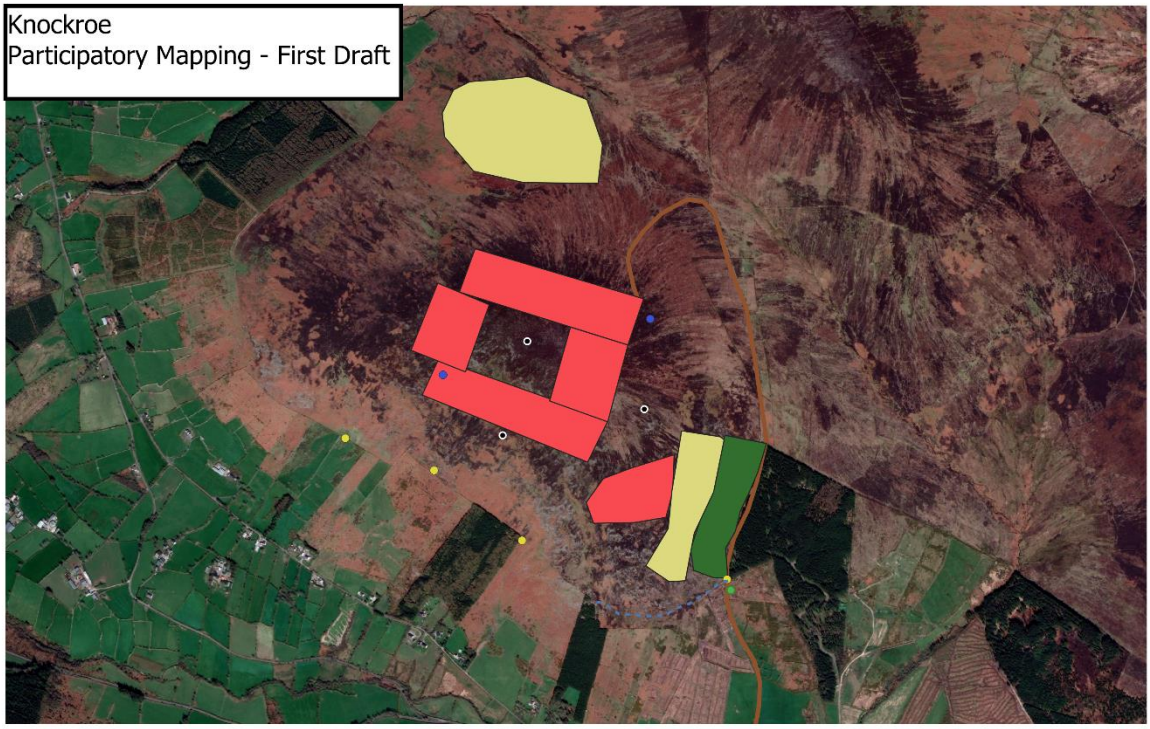
13. Turbary impact			
None/low	Medium	High	See "Variables description" sheet for more detailed information
0	-7	-15	

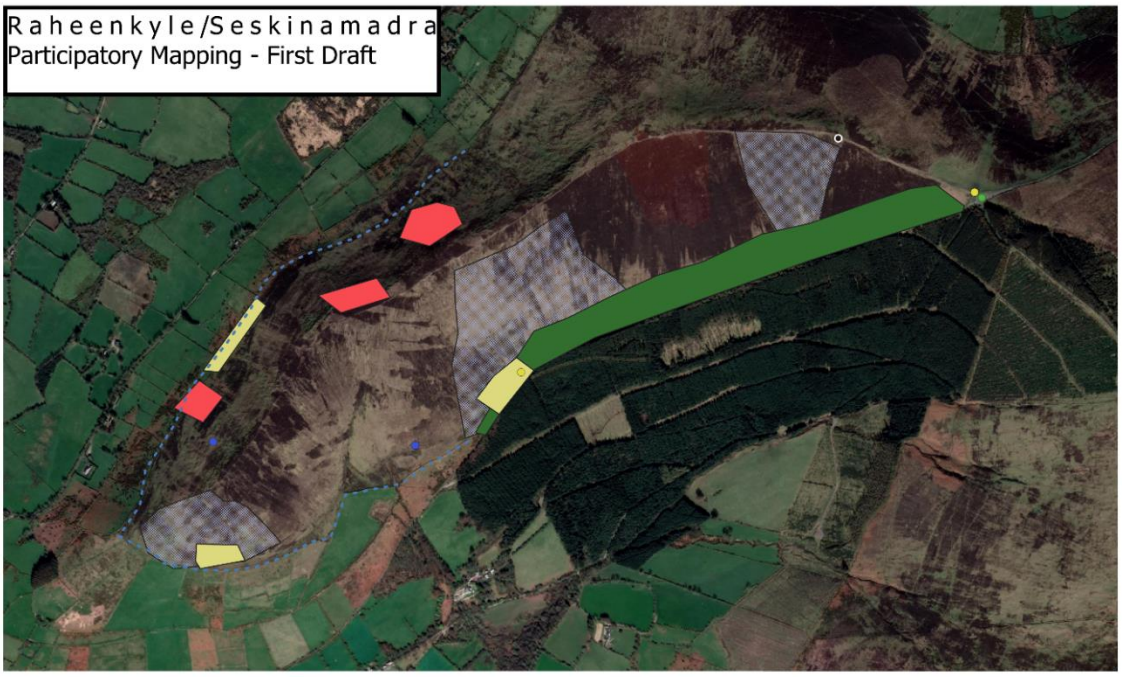
14. Impact of other damaging activities			Type of Damaging Activity:
None/low	Medium	High	See "Variables description" sheet for more detailed information
0	-7	-15	

Field score total:_____
Max. Score: 100

APPENDIX 3: PARTICIPATORY MAPPING RESULTS




Knockroe
Participatory Mapping - First Draft
Legend:
Stonewall_Repair
Access_Gates
Archaeological_Sites
Springs
Signage
Scrub_Bracken_Control
Controlled_Burning_Areas
Sikta_Spruce_Removal
Path_Road_Repair


Raheenkyle/Seskinamadra
Participatory Mapping - First Draft
Legend:
Stonewall_Repair
Access_Gates
Archaeological_Sites
Springs
Signage
Scrub_Bracken_Control
Controlled_Burning_Areas
Sikta_Spruce_Removal
Grazing pressure